

F. FREE-OIL RECOVERY

Objective & Strategy

The objective of the free-oil recovery is to maximize the containment and recovery of spilled oil on the water in the nearshore environment, thus minimizing impact to sensitive areas. Shallow-water Free-oil recovery strike teams are typically designed to address the fragmented rafts, windrows, slicks and sheens that have escaped the high volume containment and recovery efforts, or are in areas where the high volume containment and recovery systems are unable to operate.

Free-Oil strike teams are comprised of vessels with containment boom for oil containment and concentration, skimming systems for recovery, and primary storage devices for temporary storage before transfer to secondary storage.

There are typically three primary deployment configurations for Nearshore Free-Oil strike teams.

- U - Boom System
- V - Boom System
- J - Boom System

The U-Boom System consists of vessels towing boom in a “U” configuration concentrating spilled oil into the back of the pocket formed by the boom. This technique can also be used solely for oil concentration by leaving an opening secured by chain in the apex of the boom (see figure G-2-27). This is often referred to as a “gated U – Boom”. Typically, combinations of these configurations are used to enhance concentration and containment effectiveness. The spilled oil is then collected with a recovery device (skimmer), typically deployed by an additional vessel, and stored in a storage device.

The V-Boom System consists of vessels towing boom and a recovery device (skimmer) in a “V” configuration. The spilled oil is concentrated with the boom toward the back apex where a skimmer is located for oil recovery. Typically, these recovery systems are designed with a limited amount of storage built in and are either offloaded frequently or are augmented with additional storage devices and transfer systems.

The J-Boom System consists of vessels towing boom in a “J” configuration, concentrating the spilled oil for recovery into the back of the pocket formed by the boom. The rear towing vessel is outfitted with a recovery device (skimmer) for deployment along the vessel side where the apex of the boom is formed. The oil is then collected with the skimmer and stored in a primary storage device, such as a mini barge. This system is often utilized in place of the U-Boom system, when the response is limited by the amount of vessels available and when maneuverability is not as critical.

The general strategy is to:

- Identify the trajectory and location of the spilled oil by performing overflight surveillance and vector evaluations.
- Select a deployment configuration that best supports the site conditions and available resources.
- Mobilize and deploy Free-Oil Recovery teams as determined by overflight information and response priority.

Resources for this module have been defined as vessels, boom, skimmers, primary storage devices, and personnel. Configuration type and quantity of strike teams required will be determined by site conditions, spilled oil type and volume, area of coverage, as well as resource availability. Resource sets may need to be refined as site specific requirements dictate. Combinations of free-oil recovery and diversion are often a consideration.

General Configuration

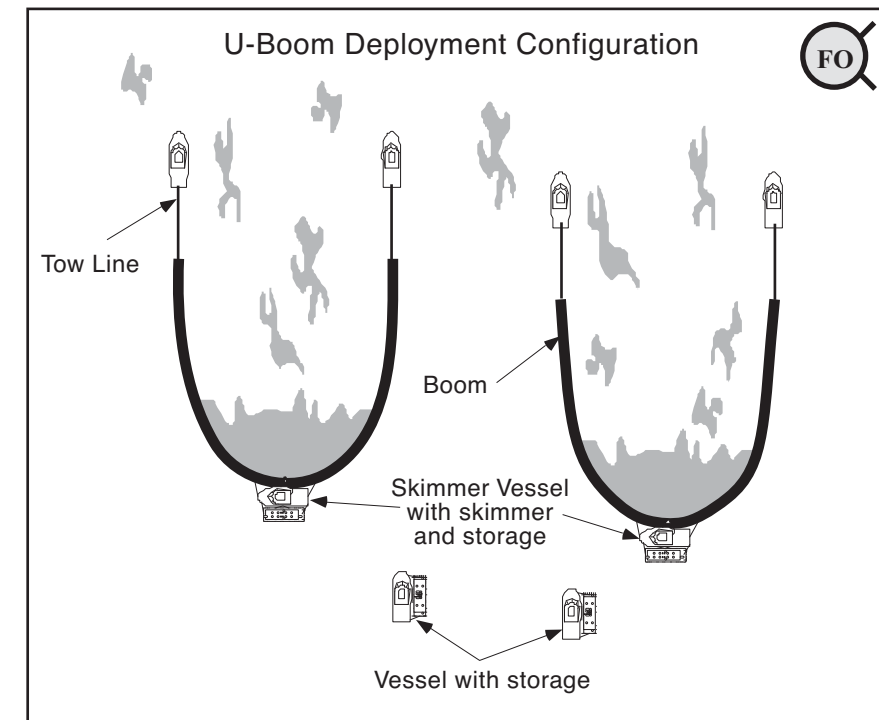


Figure G-2-23. U-boom configuration.

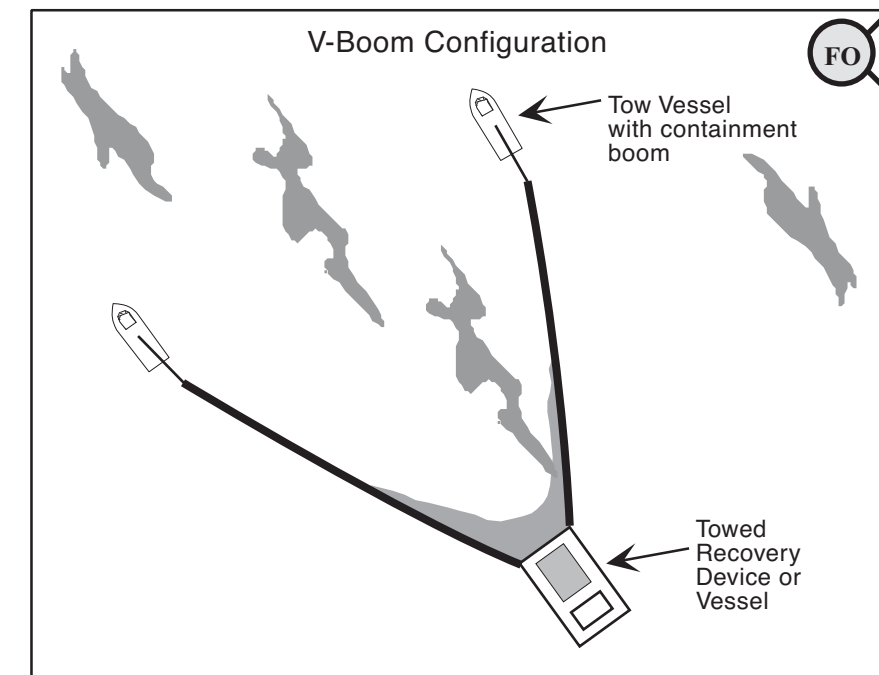


Figure G-2-24. V-boom Configuration.

Resources

Free-oil Recovery, Shallow Water **FO-S**

Direct Resources

Description	Type	Function	Quantity
Containment Boom	Protected water	Containment	up to 600'
Skimming System	Situation dependent	Oil Recovery	1
Primary Storage Device	Situation dependent	Oil Storage	2
Misc. Tow Bridles, Line & Buoys	Situation dependent	System Support	

Support Resources*

Description	Type	Function	Quantity
Personnel	Staff & Tech./Shift	Vessel Crew	10 to 12
Vessel	Class 4/5/6	Boom Operations	2
Vessel	Class 3/4	Recovery	1
Vessel	Class 3/4	Storage/Transport	1

Free-oil Recovery, Open Water **FO-O**

Direct Resources

Description	Type	Function	Quantity
Containment Boom	Open water	Containment	up to 1800'
Skimming System	Situation dependent	Oil Recovery	1
Primary Storage Device	Situation dependent	Oil Storage	2
Misc. Tow Bridles, Line & Buoys	Situation dependent	System Support	

Support Resources*

Description	Type	Function	Quantity
Personnel	Staff & Tech./Shift	Vessel Crew	7 to 9
Vessel	Class 2/3/4	Boom/Recovery	2
Vessel	Class 3/4	Storage/Transport	1

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

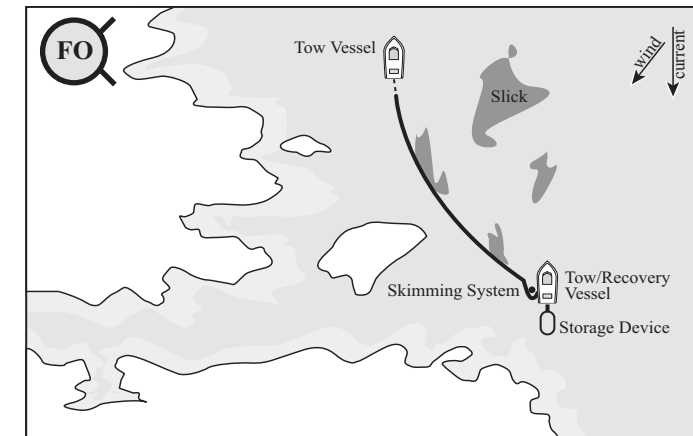


Figure G-2-25. J-boom configuration.

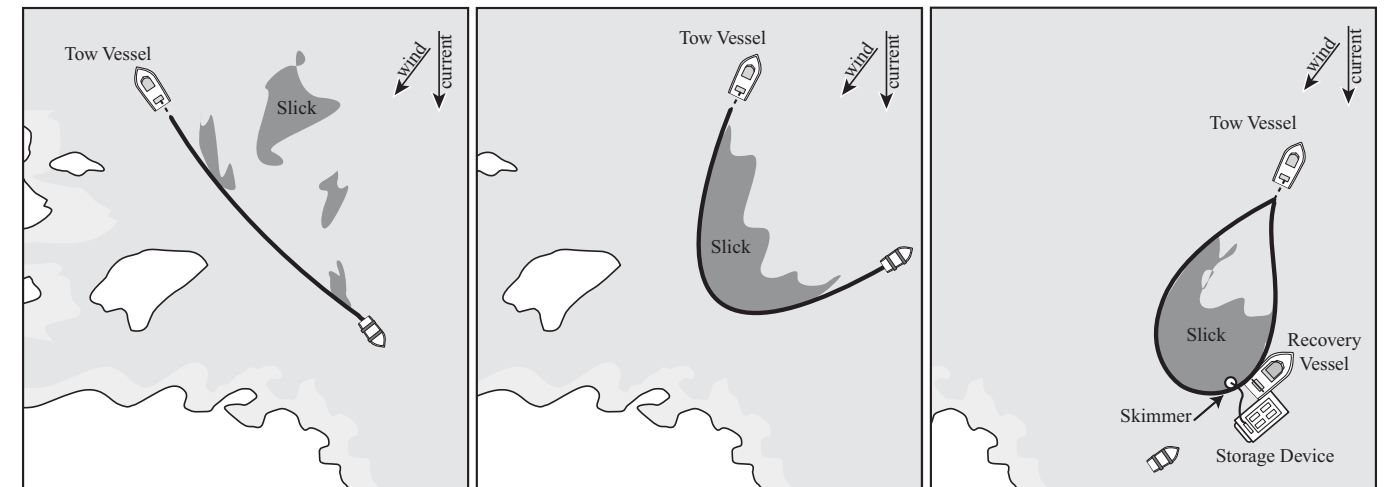


Figure G-2-26. Nearshore trapping, boom towing boats collect oil in boom then tow the trapped oil to deeper water for recovery.

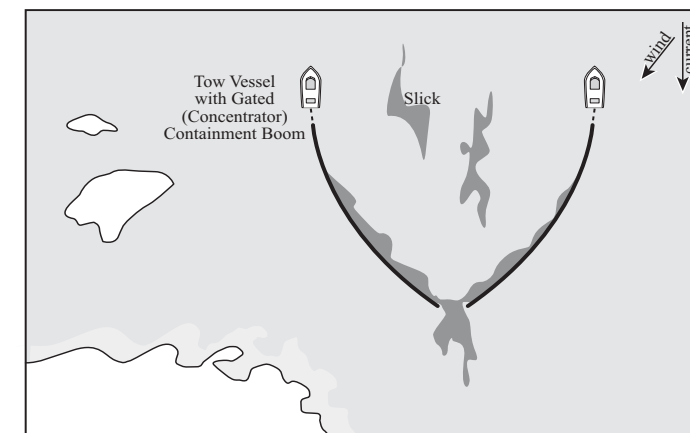


Figure G-2-27. Gated U-boom concentrator boom, towed in front of free-oil recovery.

Deployment Considerations and Limitations

- Site conditions may influence deployment configuration options.
- Combinations of configurations may optimize recovery.
- Procedures for decant and logistics for oil transport and disposal should be considered.
- Daily fair and foul weather evaluations are recommended, and should include distance to safe harbor, transit times and exposure of vessels.