

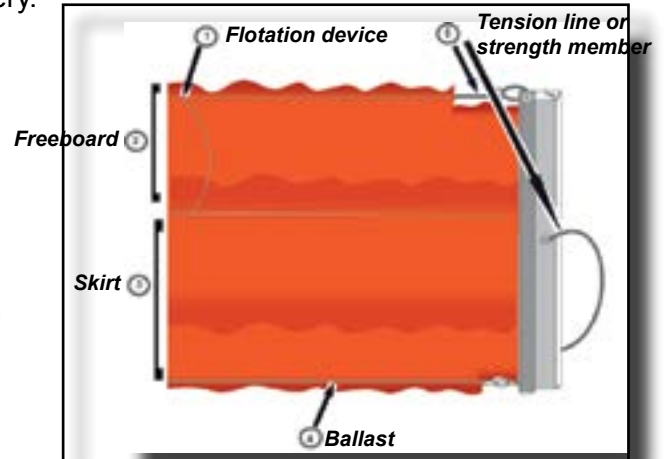


## What is Boom – Containing Oil at a Spill

Boom is a common type of oil spill response equipment used to protect shorelines or sensitive areas such as coastal marshes or seabird nesting areas by acting as a barrier. Boom serves as a floating, physical barrier placed on the water to contain, exclude and deflect, or redirect oil. It prevents oil movement by working at or near the surface level where oil floats. Before spilled oil can be recovered, the spreading of the oil must be controlled and contained in an area accessible to oil recovery devices such as a skimmer – equipment that efficiently and effectively separates oil from water for recovery.

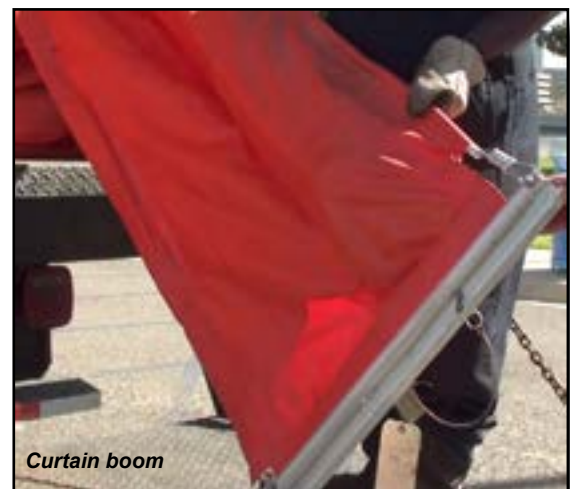
### Parts of boom

1. **Flotation device** – keeps boom at surface level to trap floating pollutants
2. **Freeboard** – (above water surface) prevents waves from washing pollutants over the top
3. **Skirt** – prevents currents from pulling floating pollutants under the boom
4. **Ballast** – (weight at the bottom of the skirt) keeps boom hanging vertically against a current.
5. **Tension line or strength member** – cables, chains or lines that extend the length of the skirt or freeboard



### Common types of boom

- **Fence boom** has a high freeboard and short skirt; it is heavy and rigid which is why it is used at facilities where it can be left in the water and pulled out when needed.
- **Curtain boom** has a longer skirt and shorter freeboard and is used where underwater currents are stronger and the pollutant has an opportunity to move below the surface of the water also known as subduction.
- **Inflatable boom** has at least two sections: one consists of air-filled tubes that lie above the water for flotation to keep oil from crossing the boom on waves, and the other has one or more water-filled tubes that lie below the water for ballast and keeps oil from passing beneath the boom.
- **Sorbent boom** made of an absorbent or adsorbent material collects and holds oil within the boom itself. It is most effective with thin layers of pollutants and light winds or currents. Once soaked to capacity, the boom can be recovered and the collected oil squeezed out – this material is hydrophobic (repels water) and petroleumphilic (attracts oil) at the same time. This type of boom can be found in sheets, rolls, pads and in small quantities.
- **Fire boom** is made of material that can withstand the



heat generated by burning oil, which can exceed 2,000° F, used to corral oil to be burned in an on site (in-situ) burn operation.

- **Snare boom** looks like cheerleaders' pompoms tied to a long line. It is placed along shorelines and anchored by stanchions or anchors. Pompoms by design have a greater surface area to collect the spilled product.

### Specifications

- Measured in feet
- Sizes are described in inches of freeboard and skirt
- Typically comes high-visibility colors, such as white, yellow or orange, for easy tracking

### Tasks

Typical tasks for boom include:

- Encirclement – the process of laying one or more barriers of boom around the source of the spill to keep it from spreading.
- Diversion – setting one or more lines of boom at angles into or across a moving slick's path to guide it toward an area where it can be confined and recovered, or to let it safely pass a sensitive area. Diversion is primarily used nearshore on rivers and is most effective when there are weak currents or little wave action.
- Collection – towing boom in a “V,” “U,” “J,” or teardrop configuration through or around a slick to gather oil together for recovery or burning.
- Recovery – placing sorbent boom where it will contact floating oil and absorb or adsorb oil.
  - *Adsorb* means a substance penetrates through another item.
  - *Absorb* means a substance sticks to the outside of another object.
- Exclusion – stringing boom around non-polluted areas to keep oil out.

**General information on boom:** The type of boom deployed depends on local conditions such as sea state (the general surface condition of a large body of water), tides, currents and wind.

There are limitations on the effectiveness of any boom. Examples of limitations are splash-over from wind and breaking waves or changing tides and shifting currents.

