

US EPA ARCHIVE DOCUMENT

# Boom Types and Capabilities

Environmental Response Training Program

S. EPA ERT's Oil Response Training

# Functions of Boom

- **Protection**
  - Shoreline, creeks, wetlands, water-intakes etc.



# Functions of Boom



- **Deflection**
  - Move oil from one side of river to the other, or to a collection point, or around an object or island etc.

# Functions of Boom

- **Collection**
  - Catch or hold oil at a location on water where the oil can be collected using various techniques.



# Boom Profile



- Profile
  - Flotation
  - Skirt
  - Weight

# Boom Construction

- **Materials**
  - Flotation
  - Shell material
  - Connectors
  - Weights
  - Top Cables



# Boom Types

- **Commercial**
  - Internal Flotation
  - Spring Loaded
  - Self Inflatable
  - Fire Boom
  - Shoreline sealing
  - Adsorbent

# Boom Types

- Internal Flotation



# Boom Types

- Spring Loaded



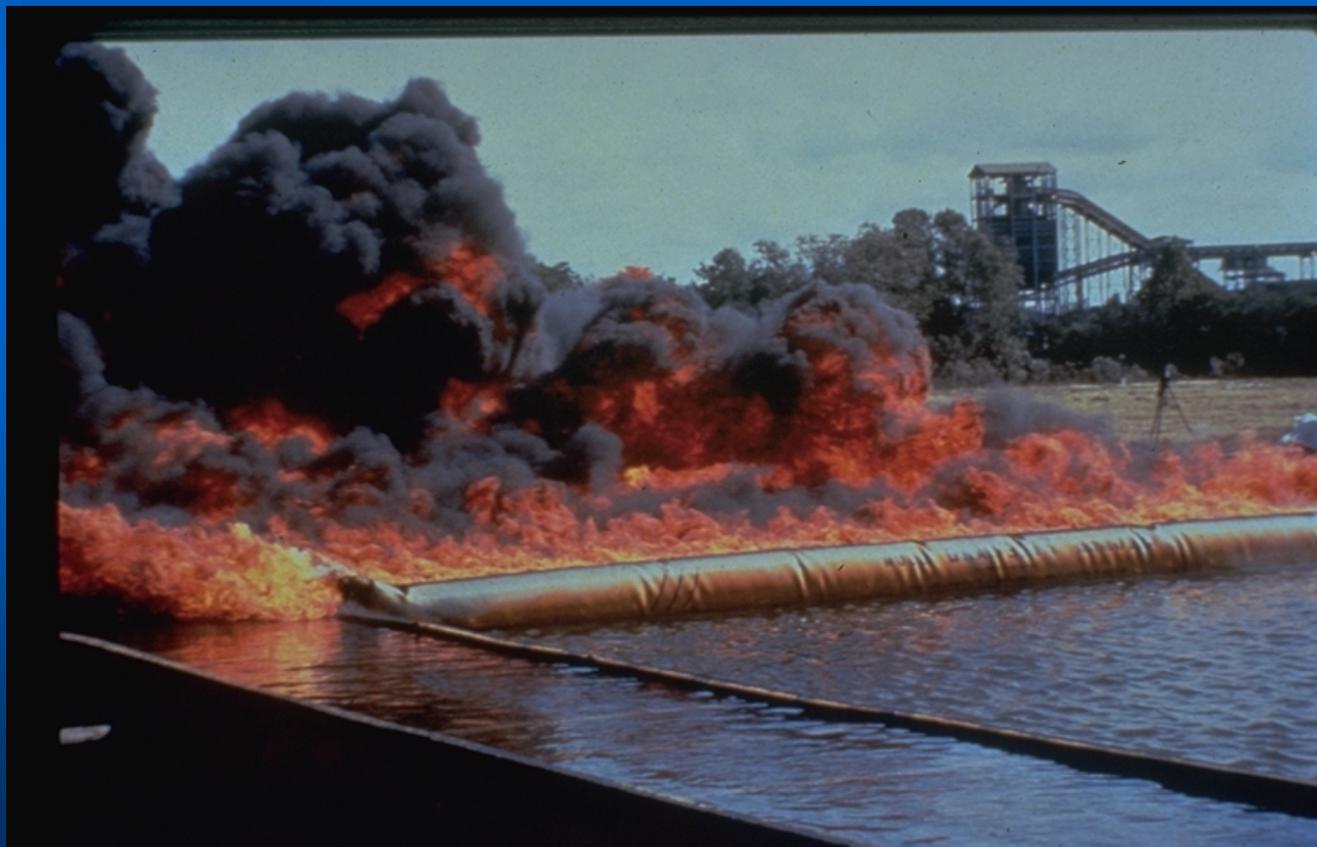
# Boom Types

- Self Inflatable



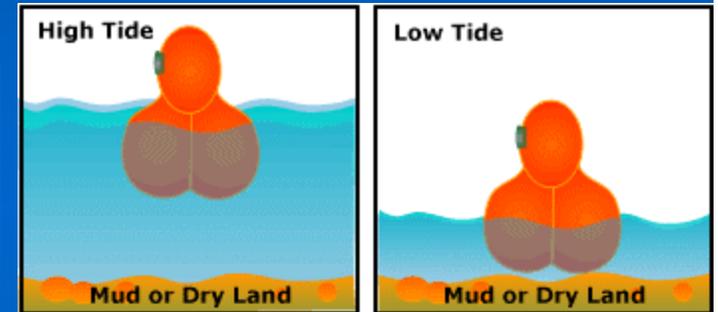
# Boom Types

## ○ Fire Boom



# Boom Type

- Shoreline Sealing Boom



# Boom Types

- Adsorbent Boom



# Field Expedient Containment Methods

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- Plastic Sheeting & fire hose
- Log, debris
- Water Spray
- Filter fence using grass, weeds, debris
- Under flow dams
- Weir Dams

# Field Boom

- Plastic sheeting & fire hose



# Field Boom

- Logs / debris



# Field Containment

- Water Spray



# Field Containment

- Filter fence



# Field Containment

- Under Flow Dams



# Field Containment

- Weir Dams



# Commercial Boom

- **Advantages**

- Fairly easy to deploy in most cases.
- Usually quick deployment, limited by travel time to scene.
- Good at what it is designed to do.
- In most cases, can be decontaminated and reused.

# Commercial Boom

- **Disadvantages**
  - Storage and transport to scene
  - High winds, waves, fast current
  - Decontamination /expense
  - Disposal issues

# Field Expedient Methods

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- **Advantages**
  - Found on site in most cases
  - On site personnel can deploy almost immediately
  - No special equipment required in most cases

# Field Expedient Methods

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- **Disadvantages**
  - Impossible to decontaminate in most cases
  - Waste disposal issues
  - Temporary in nature

# Boom Safety Issues

- Deployment in river, flow rate of river
- Length of deployment / goal of booming operation (deflect, protect, collect)
- Anchoring method
- Anticipated boom pressure

# Boom Safety Issues

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- **Rope : Tensile strength / working load**
- **Rope safety**
- **Boat Safety operations / capabilities**

# Boom Types and Capabilities

- Commercial Boom
- Field Expedient Methods
- Safety

QUESTIONS??