Boom Types and Capabilities

U.S. EPA ERT's Oil 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

- 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

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

- 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

- Rope: Tensile strength / working load
- Rope safety
- Boat Safety operations / capabilities
Boom Types and Capabilities

- Commercial Boom
- Field Expedient Methods
- Safety

QUESTIONS??