



ENHANCING THE MECHANICAL RECOVERY OF OIL FROM MARINE AND FRESHWATER ENVIRONMENTS

Energy lives here™

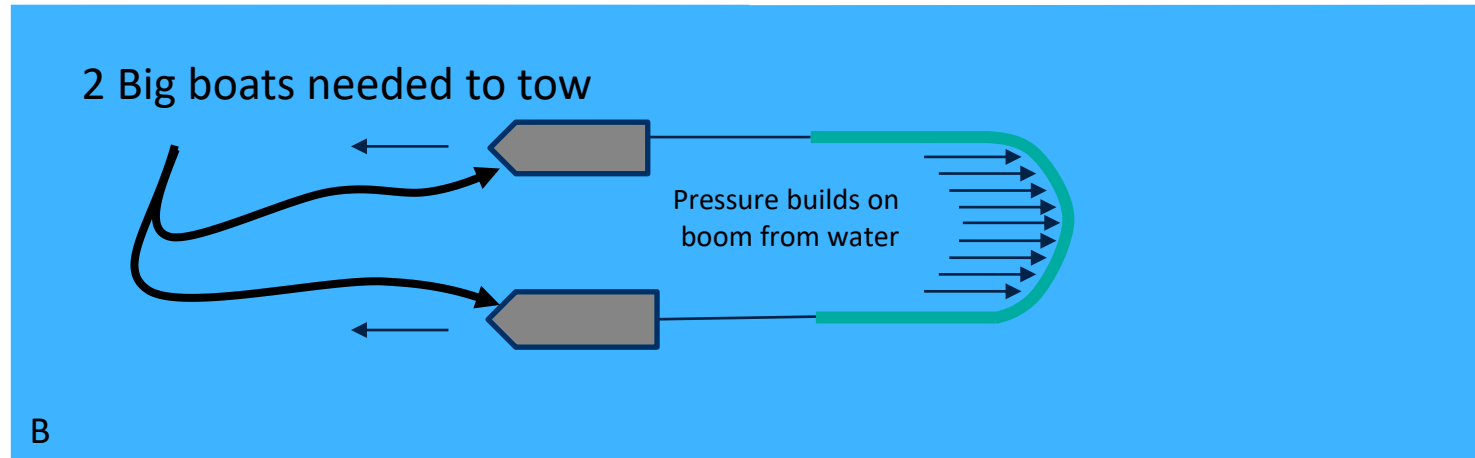
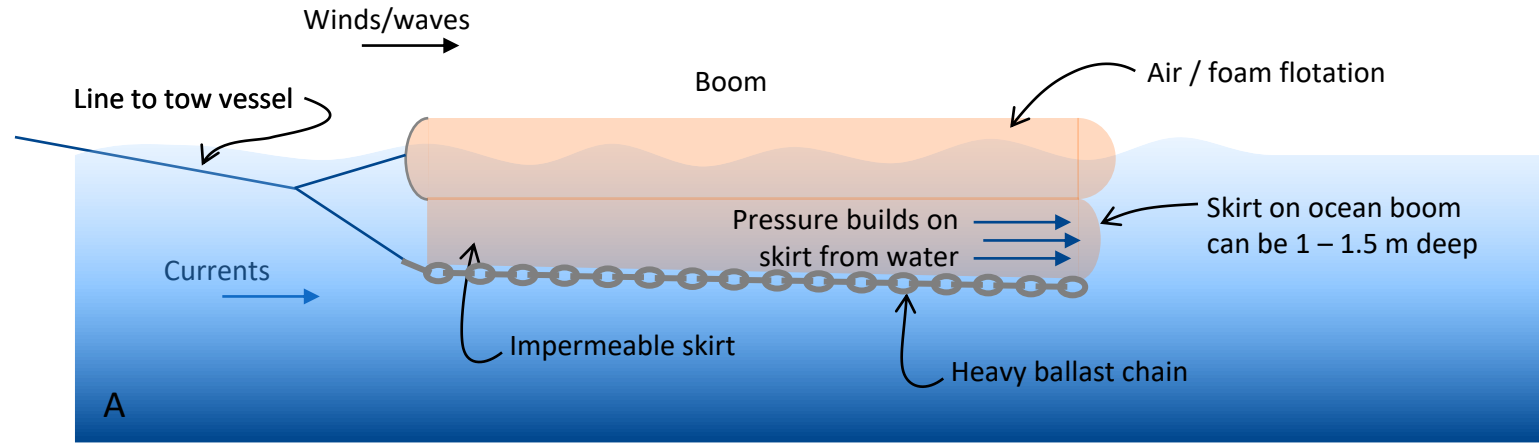
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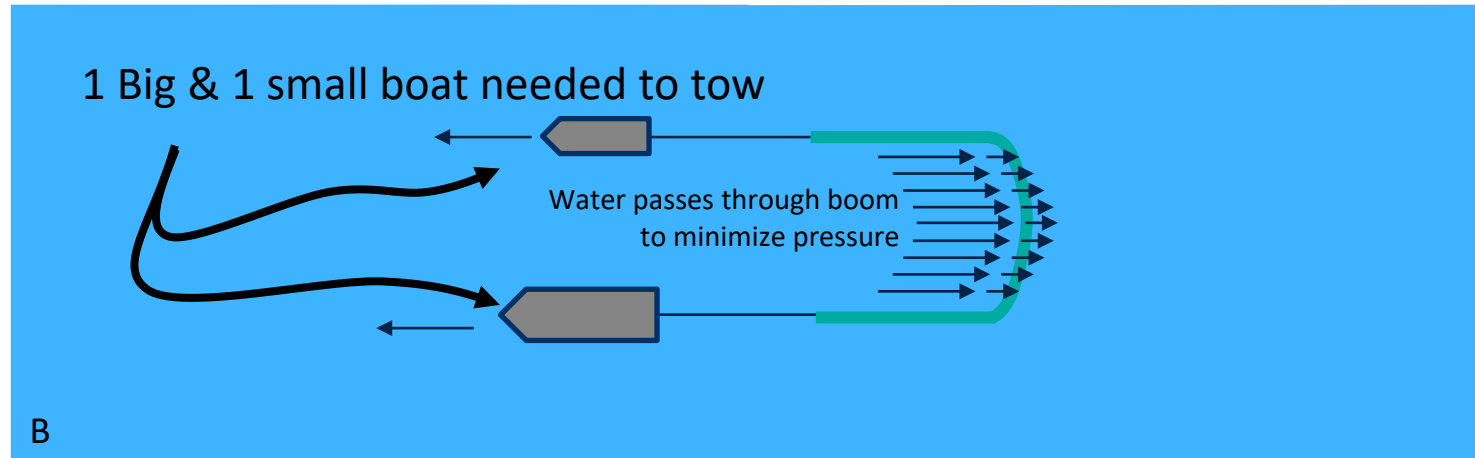
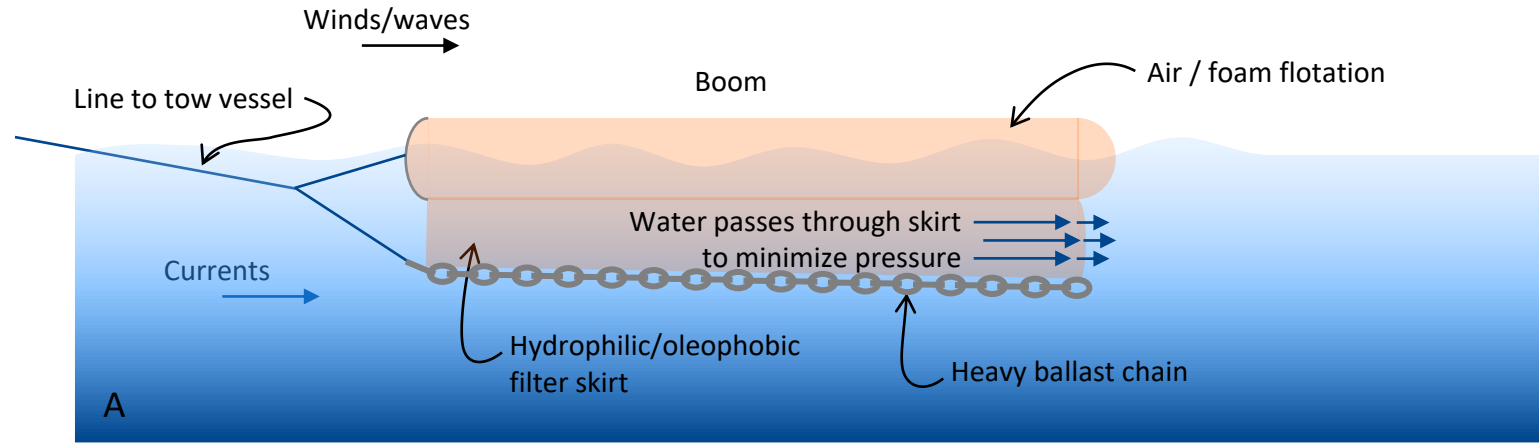
- **Two concepts under investigation**
 - **Water-permeable / oil-impermeable boom skirt**
 - **Semi-finalist NRCan Oil Spill Response Challenge**
 - **Shear-thinning skimmer**
 - **Received grant from Canadian Multi-partner Research Initiative 2.0**

Water permeable / oil impermeable boom skirt



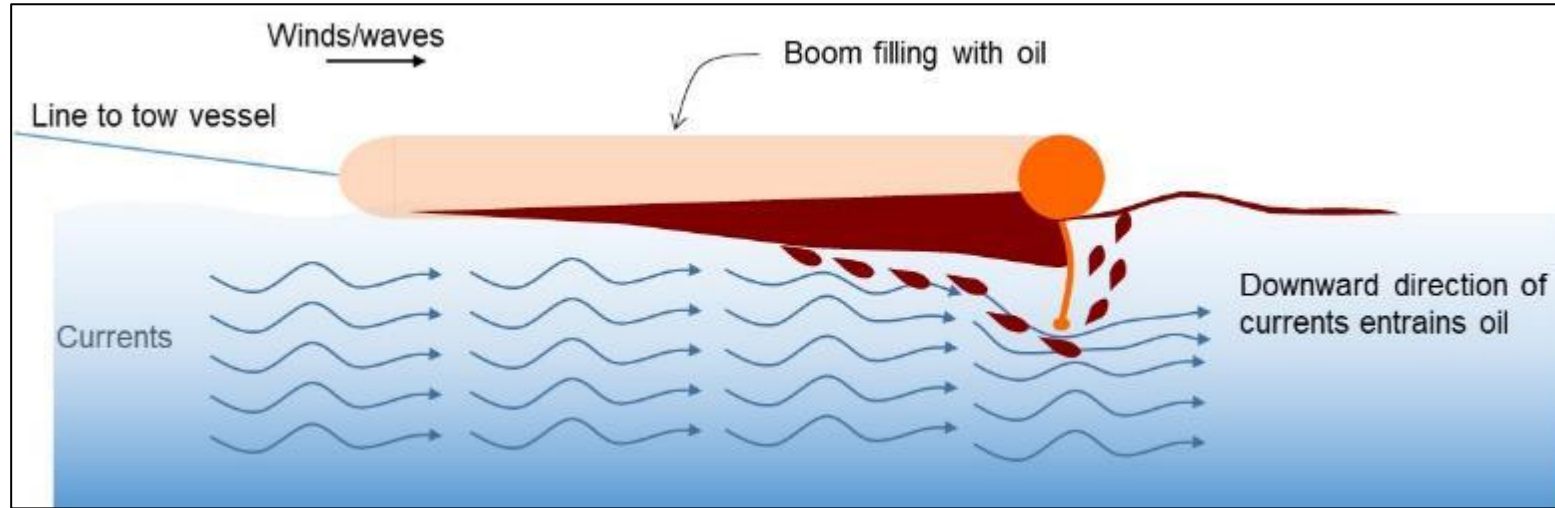
Standard impermeable boom places large forces on tow boats – two “big boats” needed to handle load

Water permeable / oil impermeable boom skirt

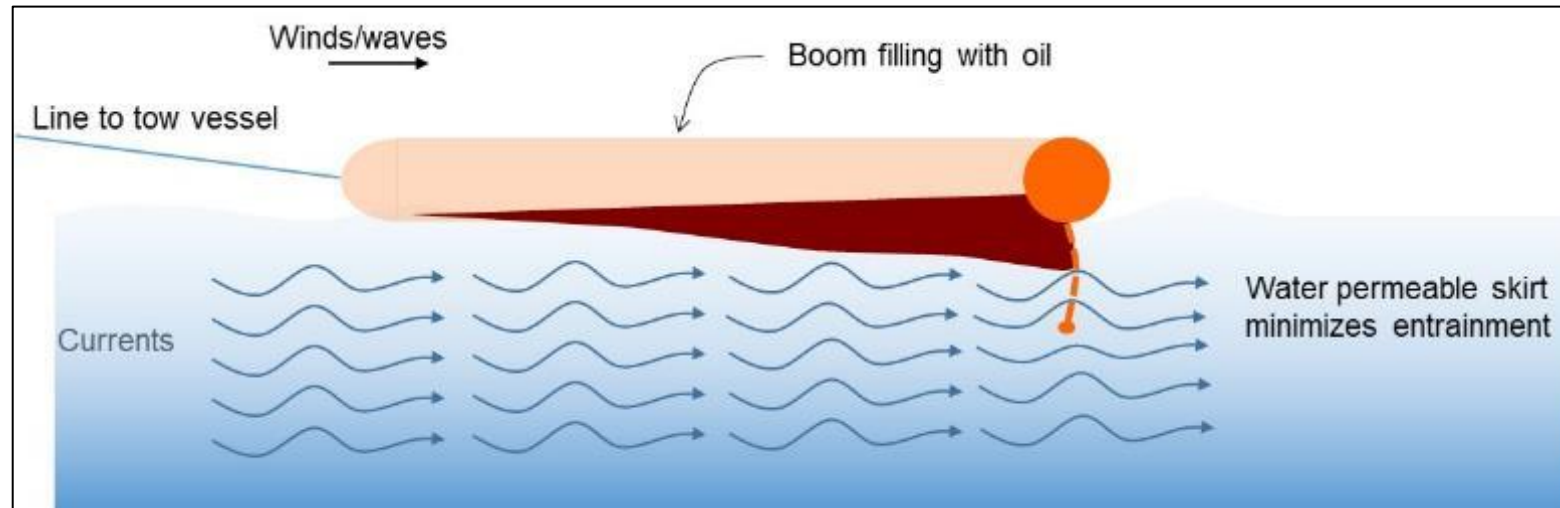


Water permeable boom reduces load allowing “small boat” for second tow line

Water permeable / oil impermeable boom skirt



To avoid entrainment of oil under boom requires slow towing speeds



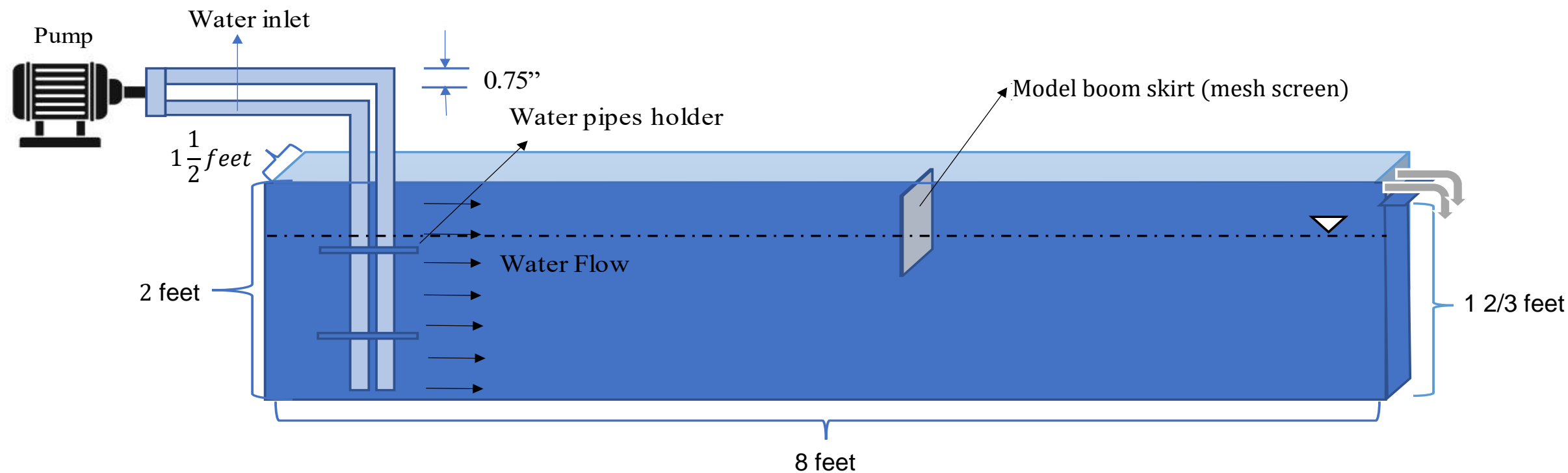
Permeable skirt will minimize entrainment allowing greater towing speeds

OBJECTIVE:

Test 58 Exxon WD31

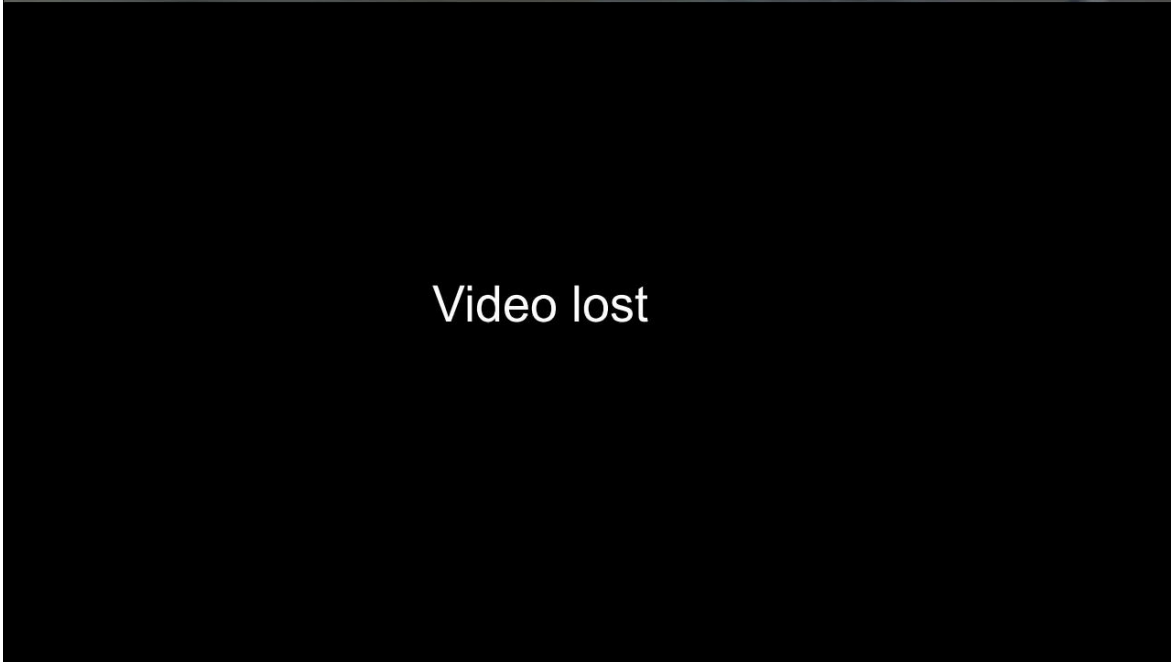
Develop Oil
Containment Boom
for
Fast Current
Conditions

Small-scale test flume

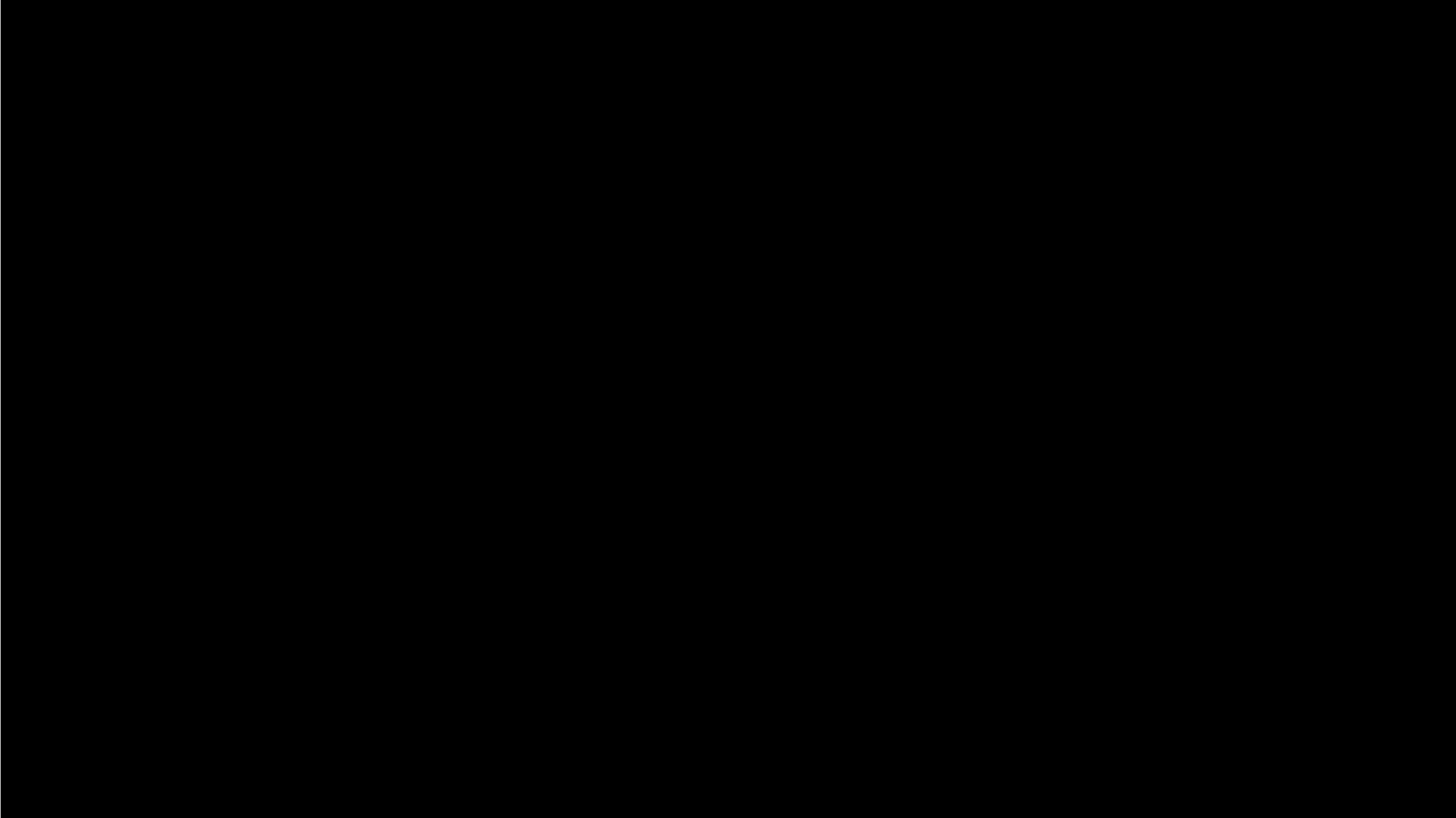




Impermeable skirt – dyed caster oil



30 x 30 coated mesh - dyed caster oil



SUMMARY

- **Water permeable / oil impermeable boom under development**
 - **Reduces tow forces needed to pull boom**
 - **Allows towing at higher speeds while collecting oil**

PLANS

- **Scale testing at New Jersey Institute of Technology**
 - **Evaluate various screen / boom geometries**
 - **Test different oleophobic / hydrophilic coatings**
- **Build large-scale prototype and test at Ohmsett and at sea**

QUESTIONS?