Storm Drain Oil Filtration Device with a Flexible Tyvek Material Container

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According to Ocean Planet, 363 million gallons of oil go down the world's drains every year. I designed a filtration device that removed water flowing into storm drains. Building on previous work in which I demonstrated that fur could be used in a device that collected oil from running water, I designed a flexible cone-shaped device containing a dog fur-filled boom. The shell of the device was constructed of a cone of Tyvek and contained an outflow pipe closed with a two-part shower drain. The boom floated in the water-filled device. I made two devices to use in my test. To test the devices, each was suspended in the air above a bucket. Oil and water were poured into the device, where the fur boom could adsorb the floating oil, while the clean water passed through the base of the water flow pipe and out the drain. I tested each device twice, varying the oil and water flow rate to approximate medium and fast flow rates in actual storm drains. The device didn't work as well as I had hoped. Too much oil passed through the device and into the bucket below and there was oil left in the device that the dog-fur boom was unable to adsorb. I plan to fix these problems by making a bigger boom that will both slow down the flow of the oil and water so that it can't plunge as far down into the device, and have the ability to adsorb more oil.

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