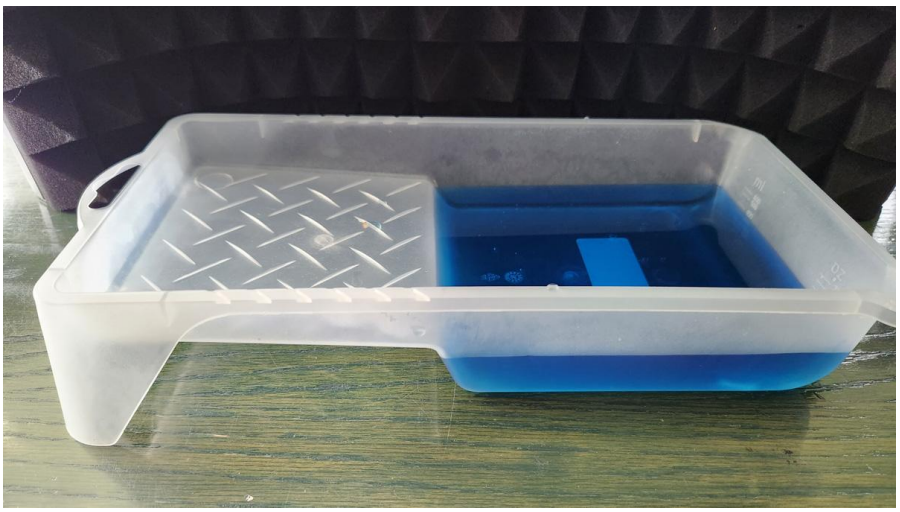
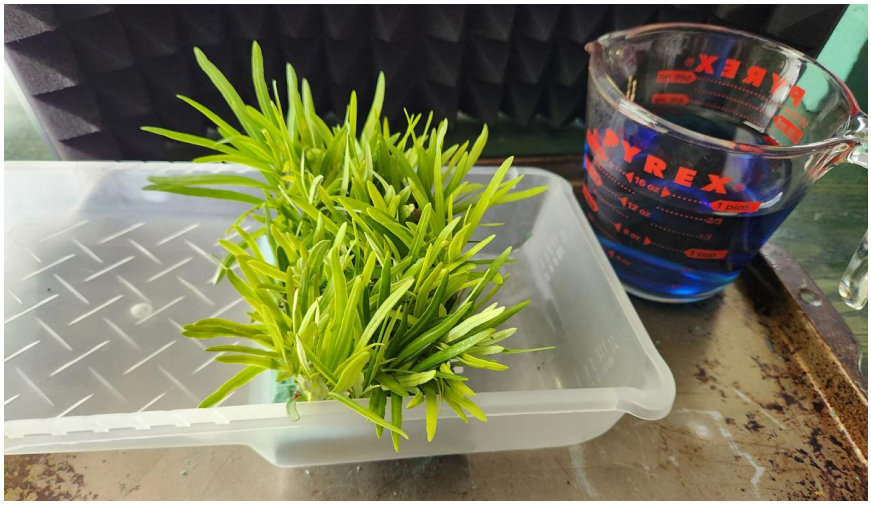
Build a Tabletop Model to Demonstrate the Flood Hazard Risks of Fill-and-Build Development

1. In this paint tray, the well represents the tidal creek basin and the raised slope the land. Fill the basin with colored water until it meets the edge of the "land." This models a "high tide" event. Then pour that water into a measuring cup and set that aside. Record the volume of that water.



2. Cut a piece of floral foam (or other sponge) to fit up snugly against the edge of the "land". Leave room for the "creek."

3. Build your "marsh" with actual plant cuttings. Pictured here are springs of yew. Then slowly pour the water from the measuring cup into your system. Keep adding water over the next thirty minutes of so until the water level again meets the edge of the land (and the capacity of the sponge is maxed out). Record the extra amount of water that the system can now hold at "high tide." Fill the measuring cup to that level and set aside.



3. To model the destruction of the marsh, first remove both the sponge and the plants, which both serve to store water. FILL in the removed “marsh” with modeling clay (here a Play Dough). Then cut out a rectangle of foam core to create a “paved road”, but leave a small piece “unpaved” to show how, where it can, a marsh will grow back.

4. Add some “buildings” (Lego blocks used here.) Slowly pour ALL the water that the previously intact “marsh” could store without the water inundating the “land. You’ve now modeled the SUNNY DAY TIDAL FLOODING” that so often happens into communities next to salt marshes that have been destroyed through fill-and-build development.