

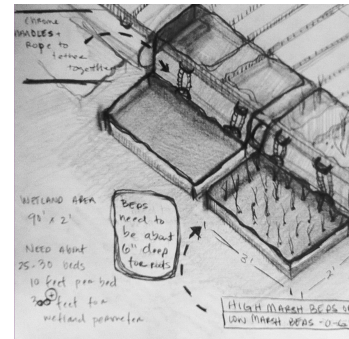
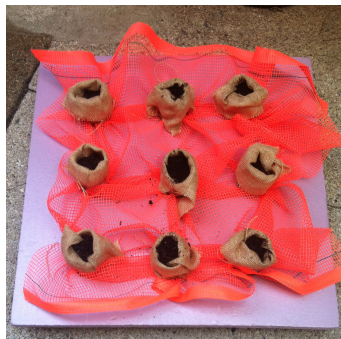


## Floating Wetlands

Fairfield University - Spring 2015

Project: Create an object, system, or structured environment based on a floating wetland. This system or structure should have utility: to clean toxins from water; to introduce habitations, or to protect from storm surges.

How to Create a Floating Wetland: Using everyday objects and materials reclaimed from the local waste stream to build a skeletal structure that floats. Suspend netting or a permeable surface from the floating structure. This can be used to build beds for wetland plants, soil, sand, and gravel. Test the buoyancy when soil and plants are added to your structure. A floating wetland should be partially submerged.



Materials: Please begin collecting the following materials: Plastic bottles with caps; netting (orange or black construction netting is great but other netting is also useful); dense foam sheets; pvc pipe; soil; burlap bags. Materials that will be available at the workshop include: zip ties, permanent glue, tools, and wetland plants will be available during the workshop on March 30.

March 30 Workshop: During the workshop, we will share ideas for several floating wetlands, demonstrate some designs and building techniques for several wetland beds, and get started making our own wetlands.

April 15 Exhibition opening: Our work will be exhibited at Fairfield University, with an opening on April 15<sup>th</sup>. After the exhibition we will place the floating wetlands in a watery area on campus where they will be allowed to grow and form a small ecosystem. This way we will be able to monitor their changes and adaptation.

Artistic and Ecological Considerations: Consider the material histories, the life of each object used in your structure, and where they came from. Consider different types of storytelling, different aesthetic and ecological possibilities, and different sites for use and display.

A list of wetland plants that can tolerate having roots constantly submerged in water:

Iris versicolor; Juncus effuses; Pontederia cordata; Lobelia cardinalis; Peltandra virginicus; Sagittaria latifolia; Mimulus ringens; Saururus cernuus; Blue flag iris; Soft rush; Pickerel weed; Cardinal flower; Arrow arum; Arrowhead; Monkey flower; Lizard tail.

A list of wetland plants commonly used for phytoremediation: Plantings of reed beds and *Typha latifolia* (bulrush, common bulrush, broadleaf cattail, common cattail, great reedmace, cooper's reed, cumbungi) are popular in constructed wetlands. Additionally, sedges, Water Hyacinth (*Eichhornia crassipes*) and *Pontederia* spp. are used worldwide. Buckbeans (*Menyanthes trifoliata*) and pendant grass (*Arctophila fulva*) are also useful for metals uptake. The common reed (*Phragmites australis*), is often used in water treatment but plants can be invasive. Duckweed (*Lemnoideae* family) is known for removing nitrogen and phosphorus. *Typha* can remove heavy metals. Iris and water hyacinth can also remove heavy metals such as lead, copper, zinc, nickel and cadmium.

Artist Background: I build ecosystems and mobile environments. Access to basic resources motivates my work. My goal is to change people's relations and perceptions about value through collaborative sculpture, performance, land art, and photography. After studying current supply and waste chains I began creating interdependent living systems as a way to reimagine the public sphere, and therefore our shared present and future.

*Mary Mattingly is an artist based in New York. She recently undertook a three-part project, beginning with the Flock House Project: three spherical living-systems incorporating rainwater collection that cycled water through edible gardens, solar panels, and enclosed living spaces. These spheres were choreographed through New York City's five boroughs. Triple Island (part two) was an amphibious ecosystem including a community garden that was exhibited at Pier 42 in Lower Manhattan. Residents experimented living in Triple Island, hosting workshops and events. WetLand (part three) launched from the Delaware River in Philadelphia in the fall of 2014. Mary and several artists-in-residence lived on the floating WetLand. Mattingly also founded the Waterpod Project, a barge-based public space containing an autonomous habitat. Working with multiple collaborators, from artists to businesses and city agencies, the Waterpod docked at piers in New York City. Over 200,000 people visited the Waterpod during a five-month period in 2009. [www.marymattingly.com](http://www.marymattingly.com) | [www.wet-land.org](http://www.wet-land.org) | [www.thewaterpod.org](http://www.thewaterpod.org) | [www.theswale.com](http://www.theswale.com)*

Suggested Readings about Water and Biofiltration:

<http://www.longislandsoundstudy.net/wp-content/uploads/2004/12/FWwetlands.pdf>  
<http://fourthcornernurseries.com/the-use-of-aquatic-plants-to-treat-waste-water/>  
<http://www.eco-web.com/edi/090227.html>  
[https://www.academia.edu/2134220/heavy\\_metal\\_phytoremediation\\_by\\_water\\_hyacinth\\_at\\_constructed\\_wetlands](https://www.academia.edu/2134220/heavy_metal_phytoremediation_by_water_hyacinth_at_constructed_wetlands)  
<http://pubs.sciepub.com/aees/1/5/4/>  
[http://www.conbio.org/images/content\\_about\\_scb/FloatingWetlandsArticle.pdf](http://www.conbio.org/images/content_about_scb/FloatingWetlandsArticle.pdf)

Additional Readings about Water and Geopolitics:

[http://www.citizen.org/documents/Bolivia\\_%28PDF%29.PDF](http://www.citizen.org/documents/Bolivia_%28PDF%29.PDF)  
<http://greywateraction.org/content/water-justice>  
[http://www.pacinst.org/wp-content/uploads/sites/21/2013/02/water\\_and\\_environmental\\_justice\\_ch33.pdf](http://www.pacinst.org/wp-content/uploads/sites/21/2013/02/water_and_environmental_justice_ch33.pdf)  
<http://www.greenpeace.org/international/Global/international/publications/toxics/Water%202011/dirty-laundry-12pages.pdf>  
<http://www.environmentamerica.org/reports/ame/corporate-agribusiness-and-america%E2%80%99s-waterways>

Art, Literature, and Water:

<http://thewaterpod.org/manifesto.html> (a link to a section of Joyce's *Ulysses* on water)  
Gaston Bachelard's *Water and Dreams*