

THREADING WATER

Long Term Change: Estuary Restoration

Threading Water provides a solution for people displaced by a hurricane as well as a new integration with a shoreline ecology displaced by two centuries of industrialization.

The New York shoreline has been altered significantly since the mid-1600s. Estuaries and salt marshes have given way to land-filling, buildings, and shipping pier structures. As a result, the Hudson and East Rivers have lost much of what was once a thriving wetland habitat for shell fish, seagrasses, and aquatic and aerial wildlife. A Category 3 hurricane would likely cause catastrophic damage to man-made structures close to the water line, but perhaps could provide the impetus to remediate this struggling estuarine ecosystem.

Rapid Site Preparation: Infrastructural Threads and Barge Patches

Threading Water demonstrates a process for deploying post-disaster housing that allows residents to quickly return to their neighborhoods.

The project draws inspiration from techniques used in sewing. Threads extend the shore-bound infrastructure (electrical cabling, water and sewer lines) into the water and provide a pier-like pedestrian pathway that connects to the floating housing aggregations. Barges attach to the infrastructural threads to form patches of dense urban hurricane relief housing.

Treading water is an intermediate action between sinking and swimming. We propose a process for relief housing that is an intermediate and remedial action between a presently suffering and future thriving aquatic habitat. Threading Water is NOT a temporary solution, but rather a process for renewal and replacement that is perpetual. It will reinvigorate the shoreline culturally as well as economically by breaking down the boundary between land and water. It provides a natural filtration for the water near the city by reintroducing sustainable shellfish and salt marsh plants. When permanent housing is rebuilt on land, the temporary units are replaced, but the threads remain as a system of recreational paths through the re-emerging saltmarsh.

The Process:

Housing units are placed on water to allow for thorough and unobstructed debris removal and permanent housing reconstruction on land.

The Barge:

The barges couple to the infrastructural threads and provide a floating platform for the housing units. The hollow depth of the barges provides space for water and power lines to connect to the individual units. The platform of the barge is flexible to accommodate multiple unit and garden configurations.

Short Term Occupancy: The Housing Unit

The Units:

The Units are fabricated of flexible panelized and box components that can create multiple housing unit sizes and configurations. The units are composed of the following elements:

Panels:

Two types of panels are used to construct walls, floors, and roofs of the housing units. Panel type “A” is pre-fabricated faceted fiberglass cellular form with internal diagonal bracing ribs. The internal cells of the panels are filled with super-insulating, expandable foam. When linked, the panels form a square tube truss. Panel type “B” is a frame in-fill that caps the ends of the square tube structure and defines entry on the side of the unit.

The Blue Box:

The Blue Box is a prefabricated kitchen or bathroom unit that plugs into the barge platform. It is a vertical structural tube to which the wall / floor / ceiling panels are attached. The Blue Box generates energy for heating water through photovoltaic panels attached to the top. It also collects rainwater from the faceted sloping roof for use directly in the garden patches, and with solar distillation it can provide potable water for the unit. A composting bin is inserted in the Blue Box beneath the toilet.

Ramp/Stair Component:

A ramp or stair is the final component that is attached to provide an accessible entrance that can engage the grounded and stacked units.