

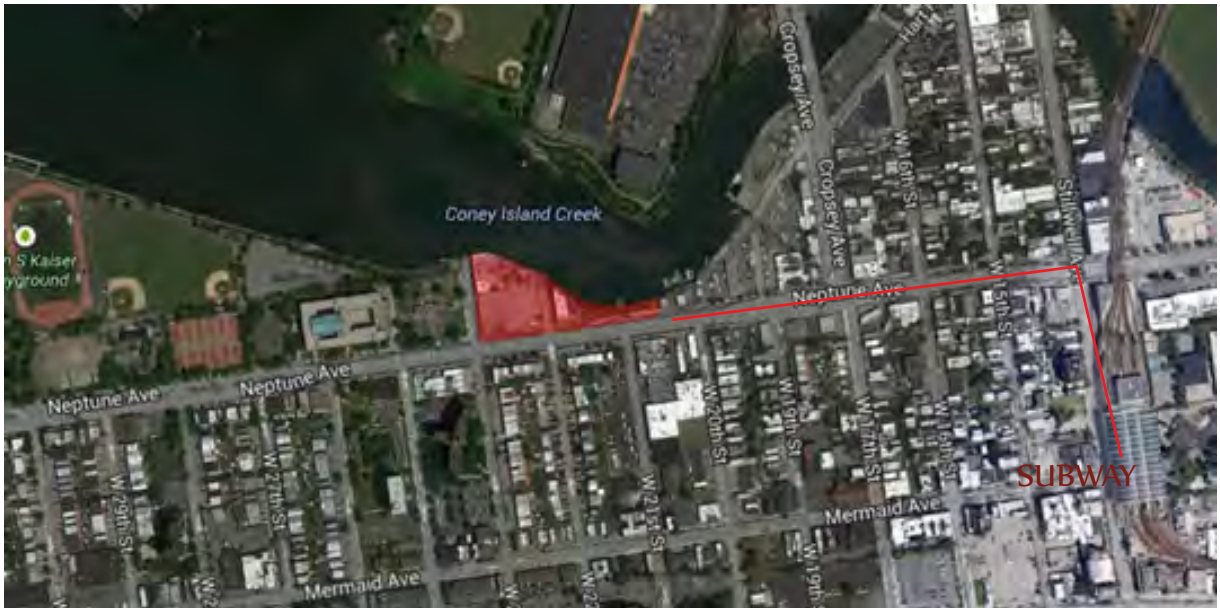
# Environmental High School

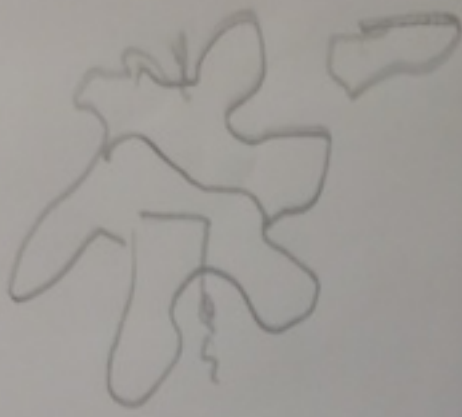
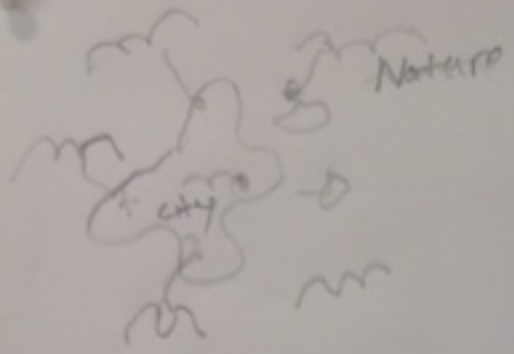
## Research & Site Analysis

(by Vasyl Chvorost , 3610)



# Environmental High School Research & Site Analysis





Environmental  
Logics

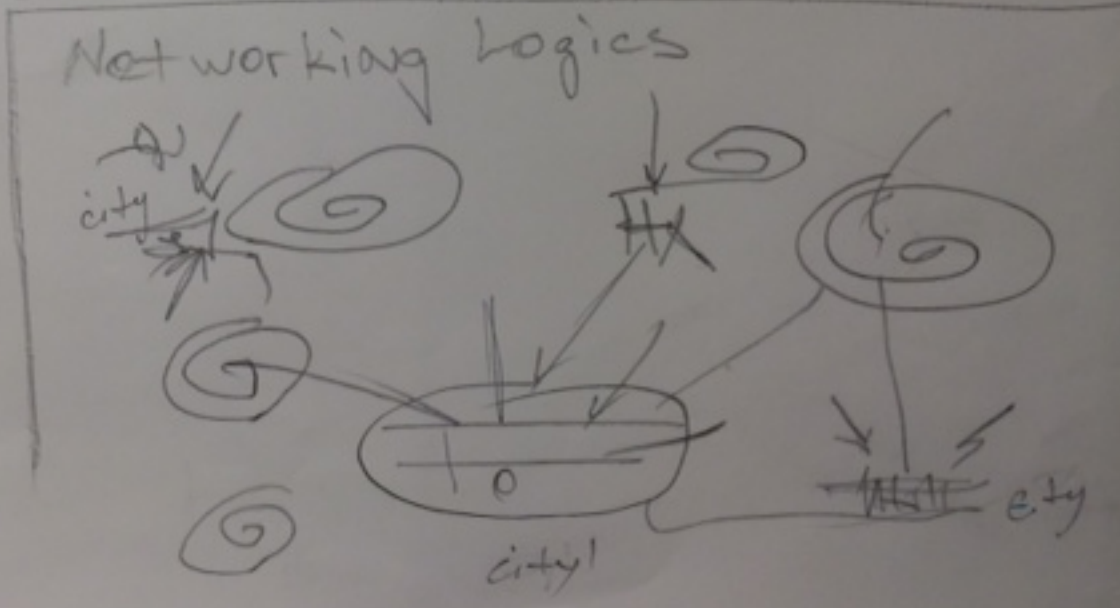
Re-naturalizing  
Recoverate

Rurbanizing  
Link

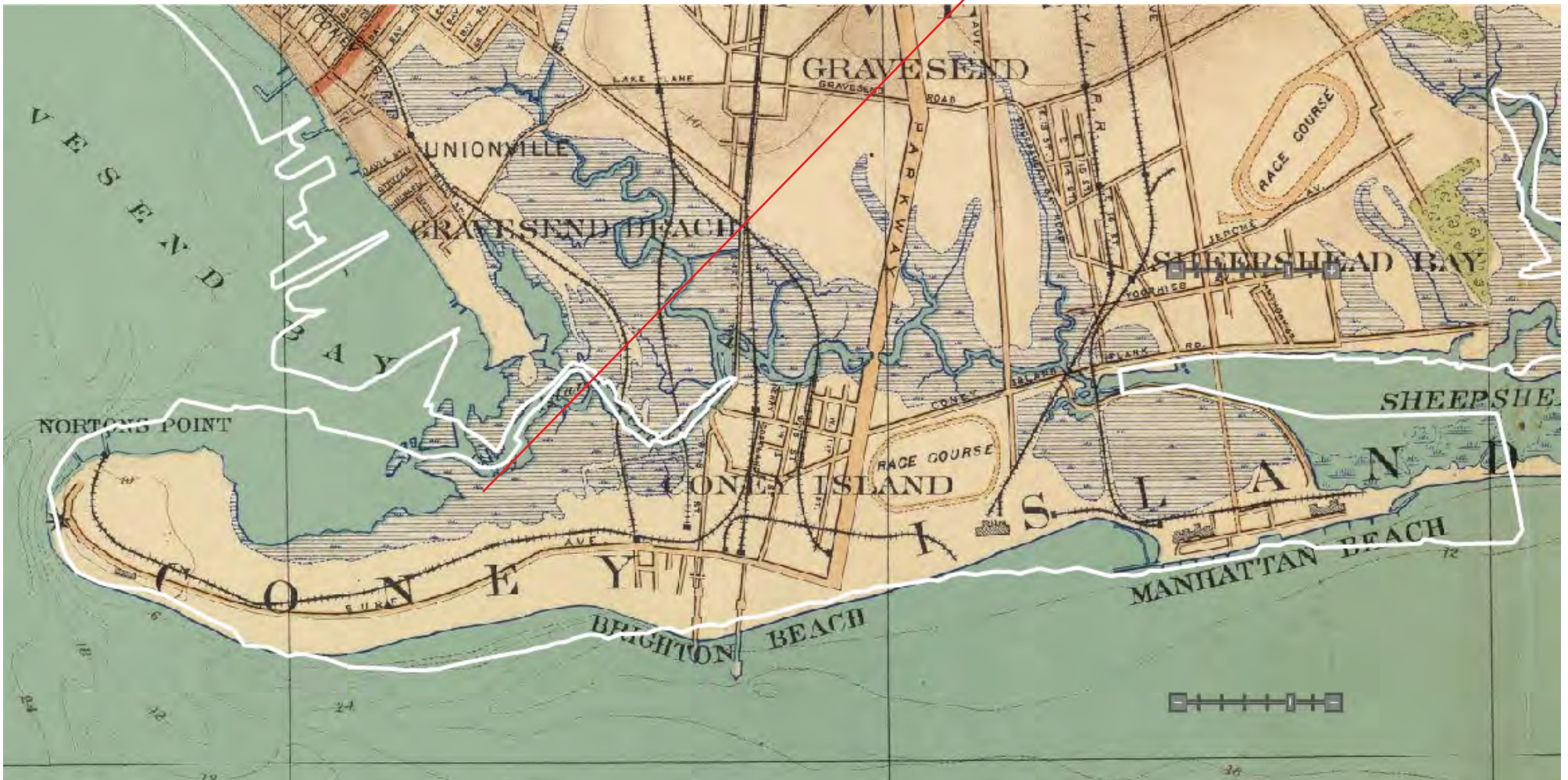
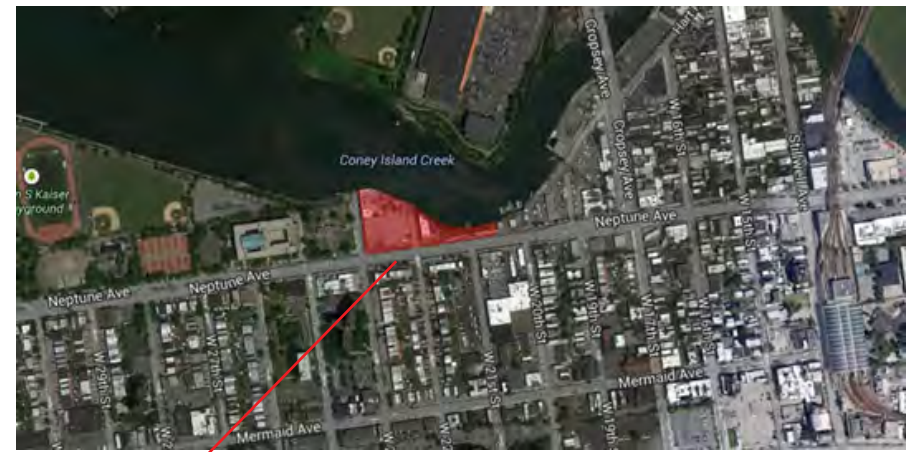
Biomimesis  
Imitate



Re-acclimatizing



What was in Coney Island before us?



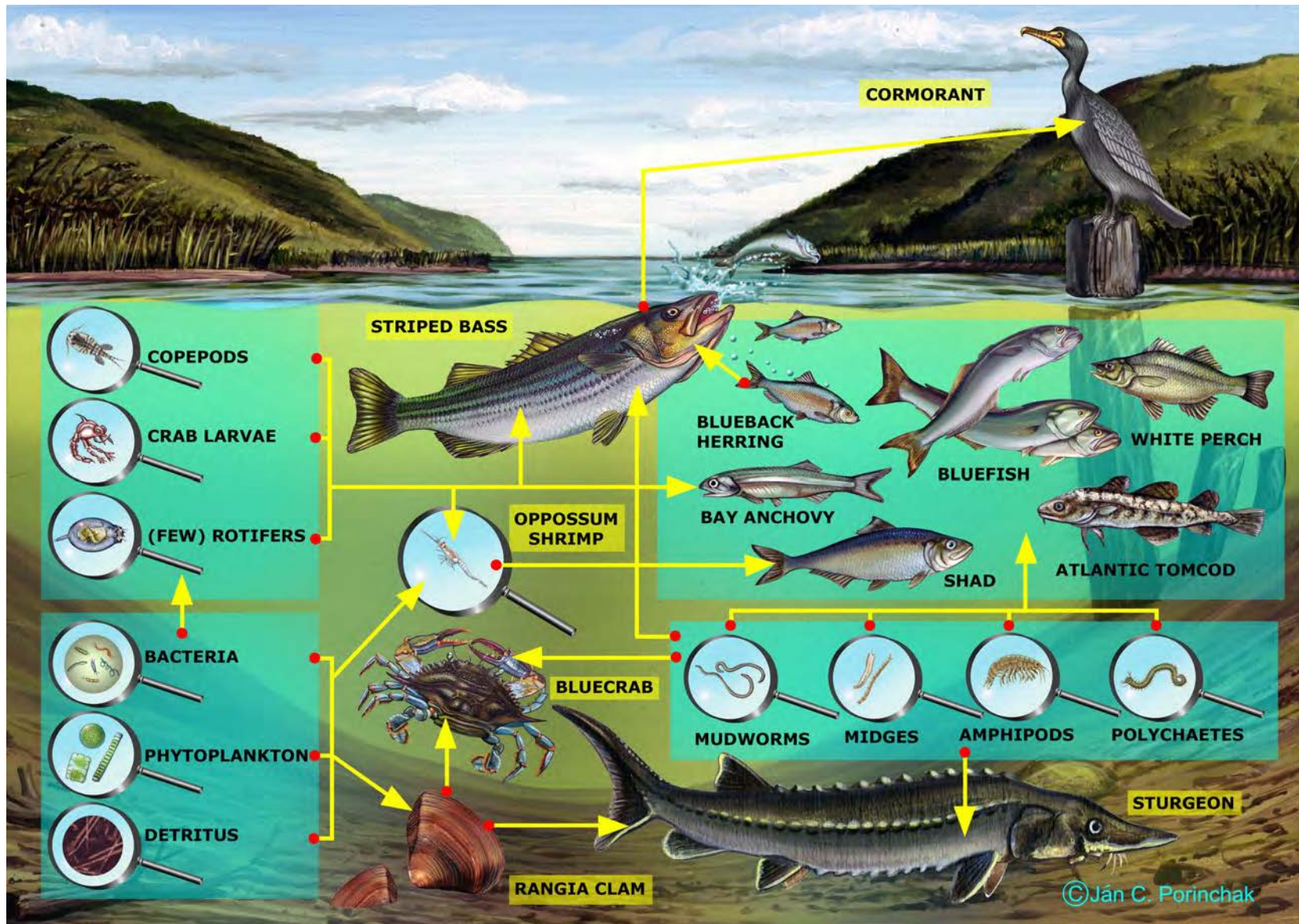
What was in Coney Island before us?



The wetland at Blue Cut Marsh, Condon



# Natural Habitat of Coney Island



What is happening right now?



What is happening right now?



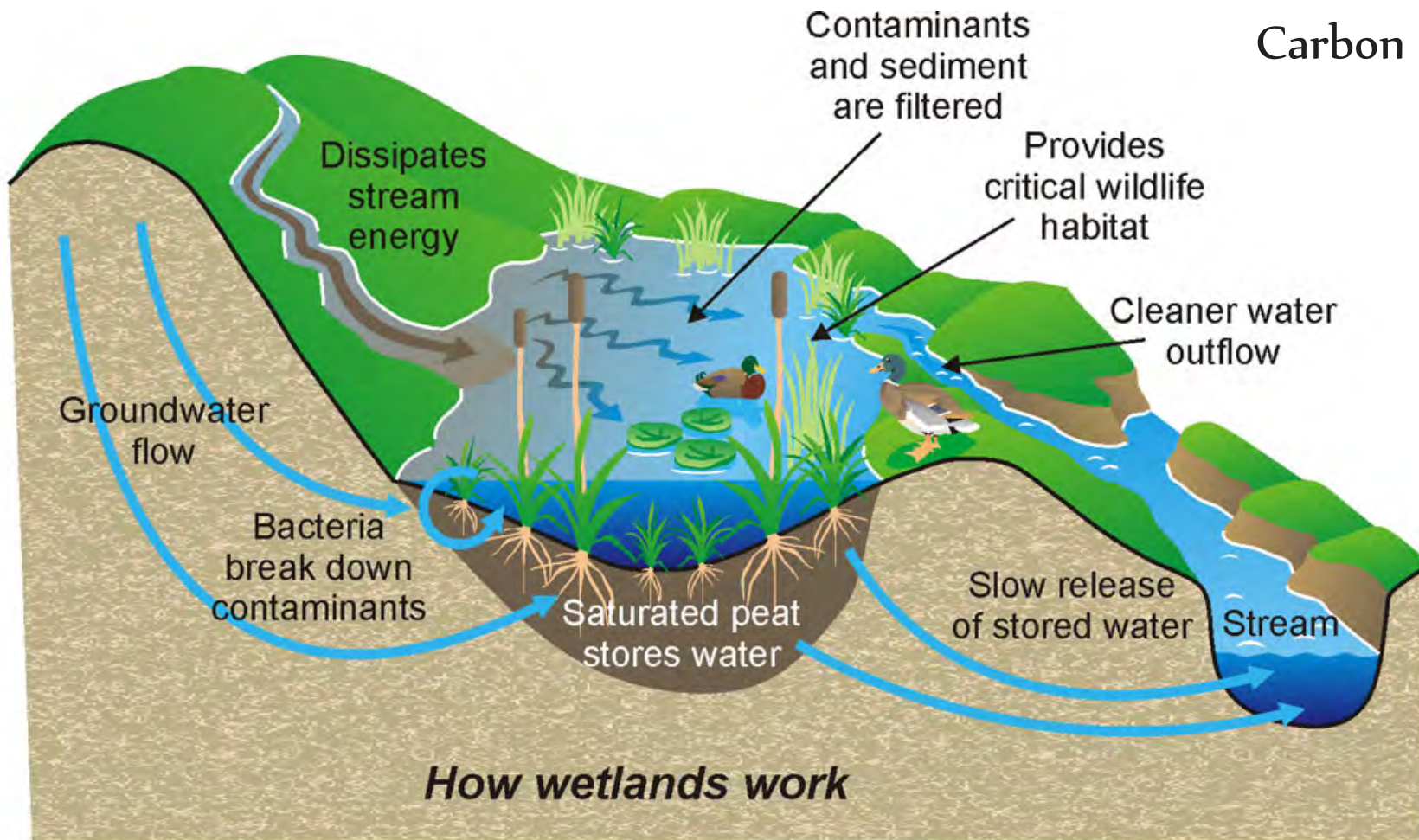


What is happening right now?



What is wetlands?

- Flood Protection
- Erosion Control
- Wildlife Food & Habitat
- Commercial Fisheries
- Water Quality
- Recreation
- Carbon Sequestration



Global Warming

Atmospheric CO<sub>2</sub> Concentrations

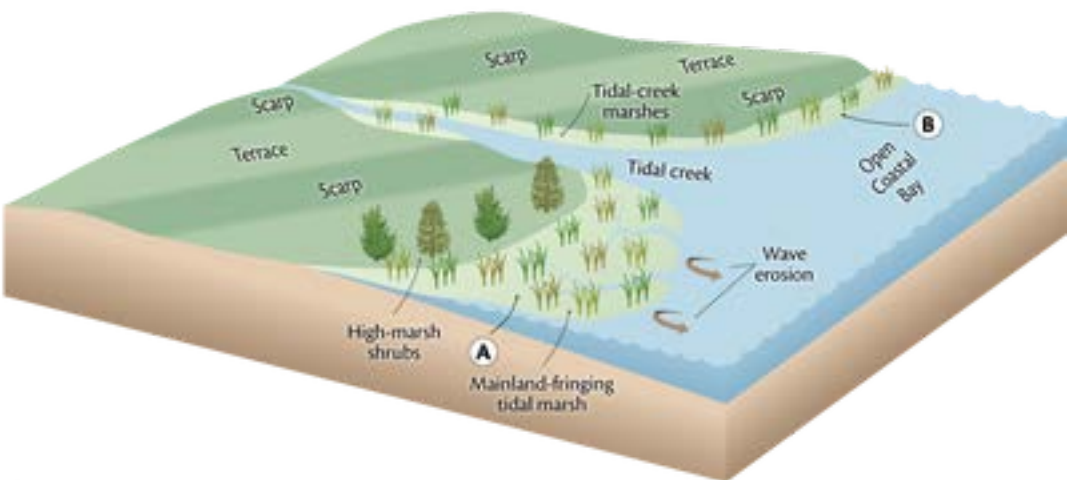
Marsh Elevation

Sea-Level Rise

Plant Production

Flooding Salinity

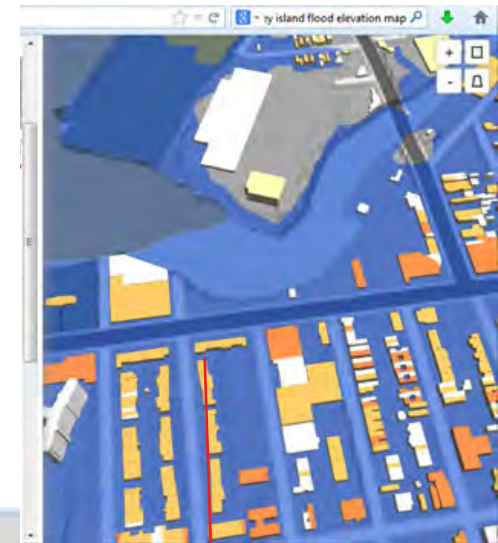
## Sea level rise & marshes



Conceptual diagram illustrating the effect that sea-level rise has on tidal marshes. As sea-level rises, mainland-fringing marshes are flanked on the landward side by a low-lying land surface (site A) can expand and maintain marsh area. Marshes adjacent to a steep landward slope, such as a scarp (site B), are most likely to be eroded and destroyed. As tidal influence advances upstream in creeks, new marsh area will be created along the margins of the creek.

Diagram courtesy of the Integration and Application Network ([ian.umces.edu](http://ian.umces.edu)), University of Maryland Center for Environmental Science. Source: Dennison, W.C., J.E. Thomas, C.J. Cain, T.J.R. Canuthers, M.R. Hall, R.V. Jesion, C.E. Wazniak, and D.E. Wilson. 2009. *Shifting Sands: Environmental and cultural change in Maryland's Coastal Bays*. IAN Press, University of Maryland Center for Environmental Science

# Flood Conditions



2007 FLOOD ZONES SANDY STORM SURGE 2013 PRELIMINARY FLOOD ZONES

On Wednesday, FEMA released new, preliminary flood insurance maps for New York City. The maps specify how likely areas are to flood, and the minimum elevation that structures must be to avoid higher insurance rates. The new maps, which replace maps that used data from 1983, double the number of structures in flood zones. Yesterday, the Bloomberg administration unveiled a \$20 billion plan for protecting the city's waterfront. | [Related story >](#)

### Sea Gate/Coney Island

The small community of Sea Gate on the Eastern edge of Coney Island was almost completely outside the flood hazard area in the 2007 FEMA maps. But Sandy ravaged the area, and in the new maps all of Coney Island is in an A- or V-Zone. Rachel Leibowicz, a Sea Gate resident who lives right on the ocean, didn't have flood insurance when seven feet of water rushed into her basement and cracked her house's foundation. With only two and a half years left on her mortgage, Leibowicz told ProPublica that she couldn't afford to elevate her property. "It'll be harder to sell in the future," she said. "If it's worthless, it won't matter. We don't plan to move."

**Bloomberg Plan:** New York City's plan calls for an ongoing restoration of 1 million

**DAMAGE TO BUILDINGS IN SANDY**

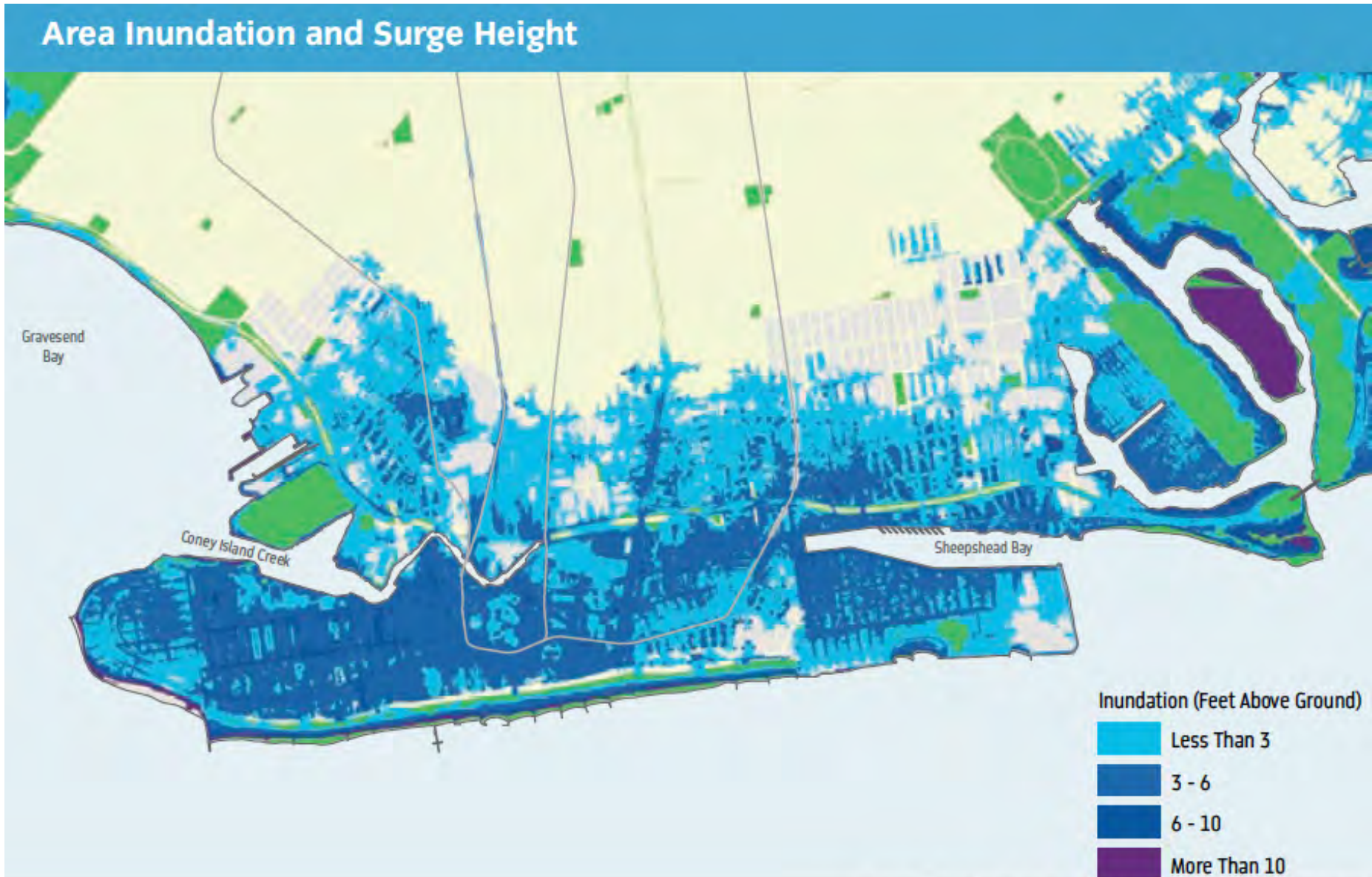
- NONE
- AFFECTED
- MINOR
- MAJOR
- DESTROYED

**BASE FLOOD ELEVATIONS**

- 0-10 FEET
- > 10 FEET
- HIGH VELOCITY WAVE "V" ZONES

Select a neighborhood highlighted above and use the buttons on the right to zoom in/out and to navigate in 3D. Use the buttons on the far right above to compare FEMA maps and actual Sandy damage.

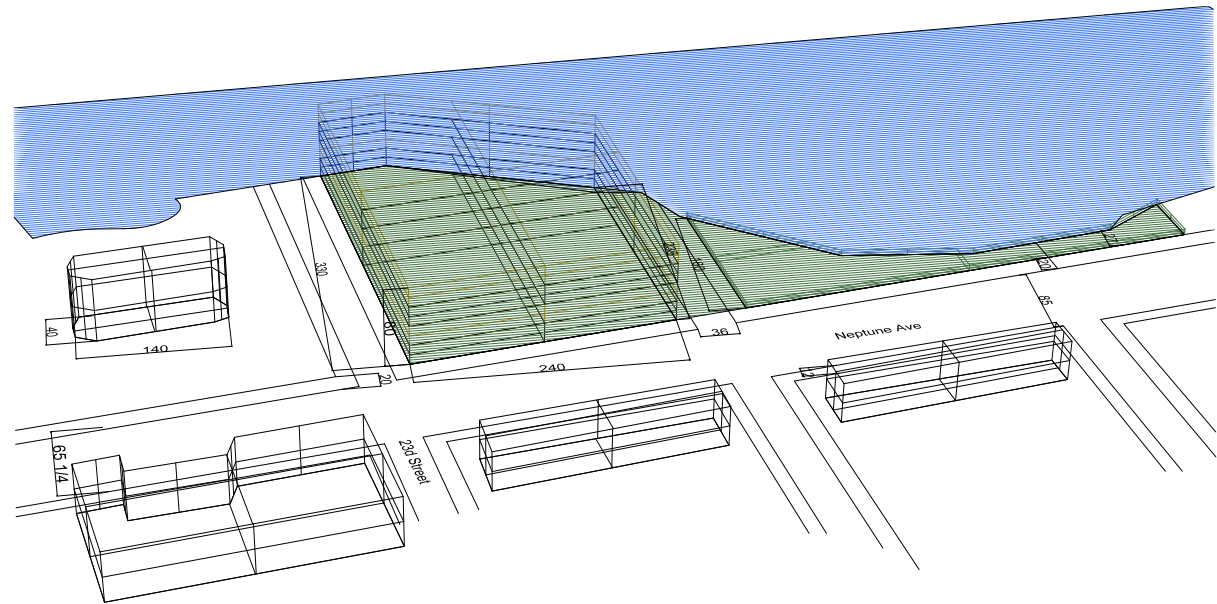
# Flood Conditions



Source: FEMA MOTF 11/6 Hindcast surge extent

**Ground Level: 3'- 8'**

- Eco Wet Lands
- Sea energy production Facility (Ground Level)
- Bus Stop, (2) Drop Off Zones
- Bicycle Parking
- Staff Parking
- Loading Dock
- Outdoor Swimming Pool
- Learning Shop (#1)
- Small Canoe Center
- (2) Garden Zones
- Farmers Market/Public Space
- Boating Dock



**1st Floor: 12'-14'**

- Sea energy production Facility (1st Fl)
- Lobby, Reception
- (2) Administration Offices
- Gym
- Indoor Swimming Pool
- Locker Rooms, Showers
- (4) Bathrooms
- Kitchen, Lunchroom
- Power Plant/Mechanical/Jenitorial

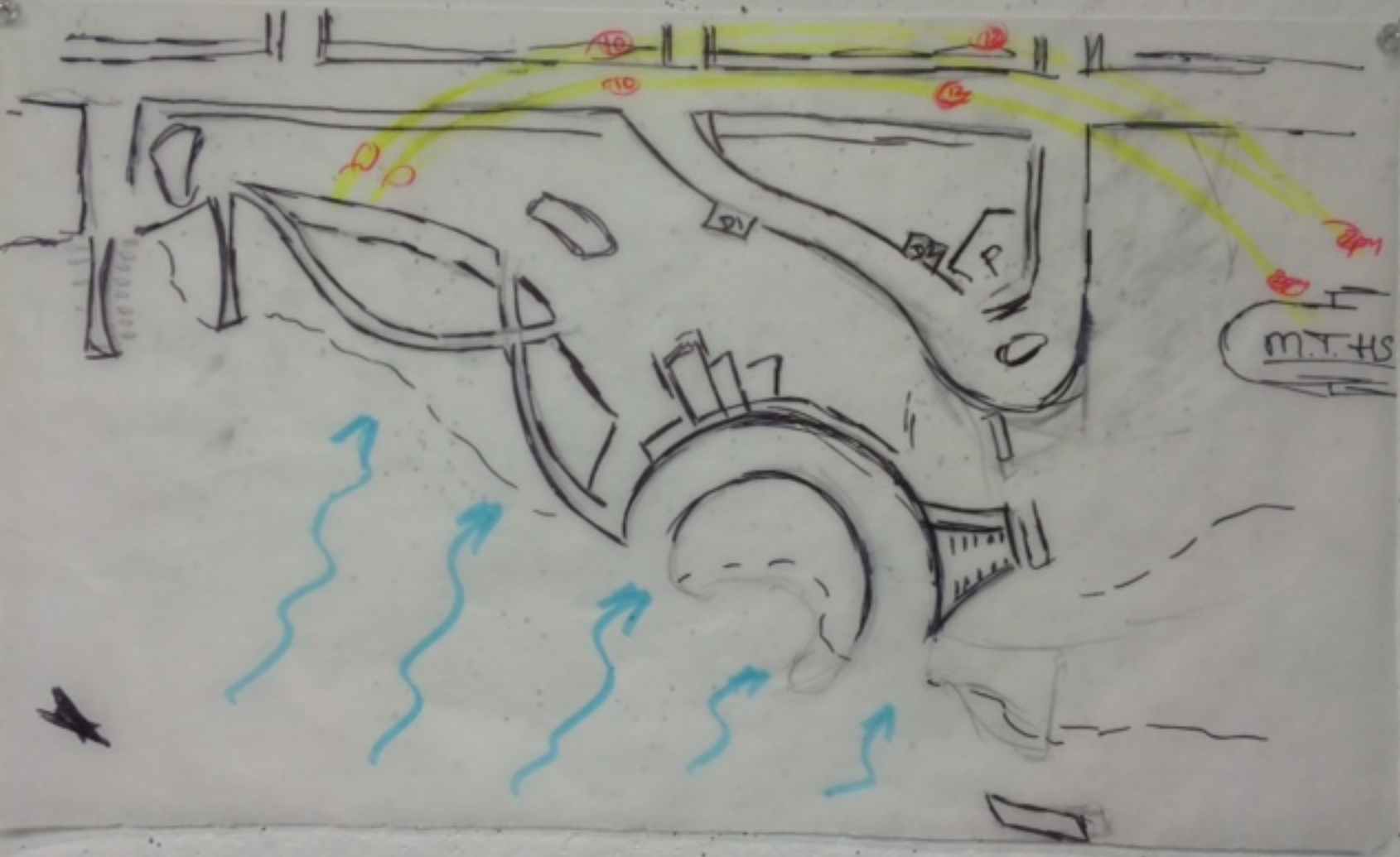
**2nd Floor: 26'-30'**

- Sea energy production Facility (2nd Fl)
- (12) Classrooms
- (2) Administration Offices
- Auditorium
- Library/Learning Center
- Learning Shop (#2)
- (3) Bathrooms
- Open balcony area

**3rd Floor: 36'-40'**

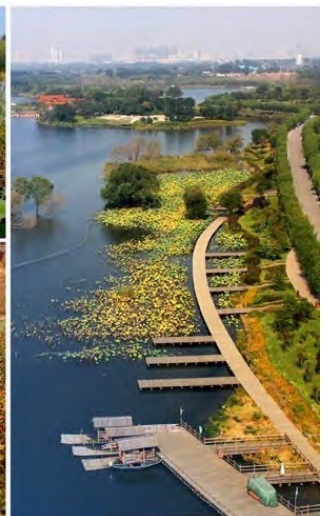
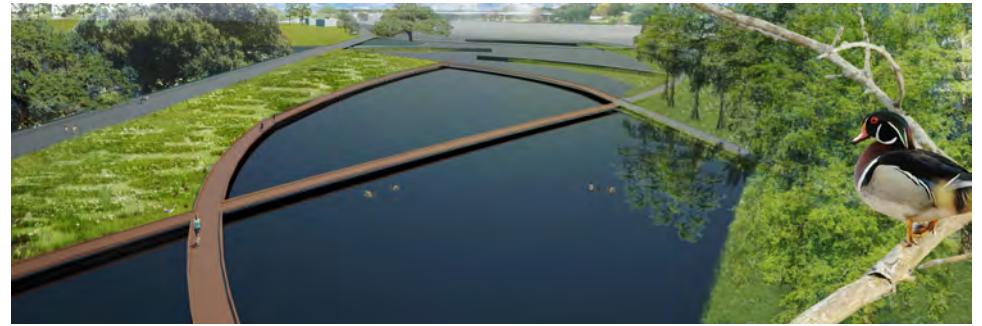
- Observatory
- Dean's Office
- (8) Classrooms
- (3) Bathrooms
- Open balcony/Roof Garden



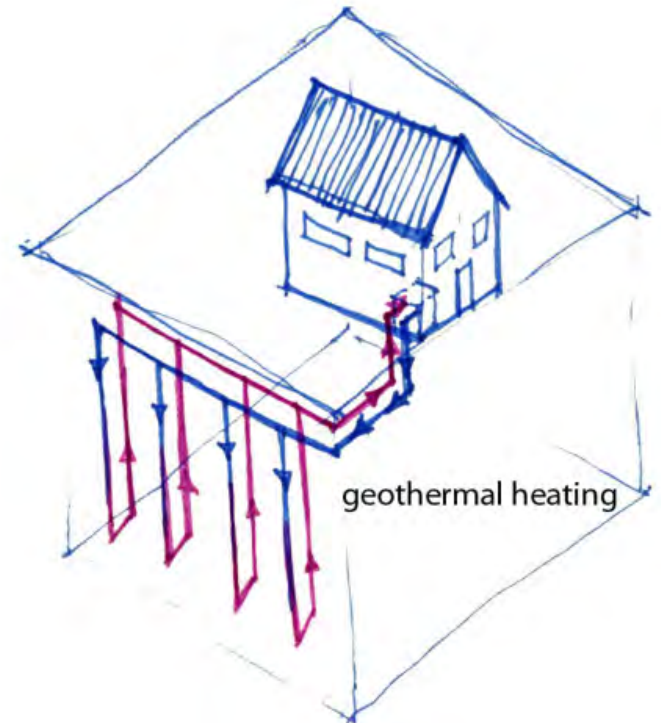
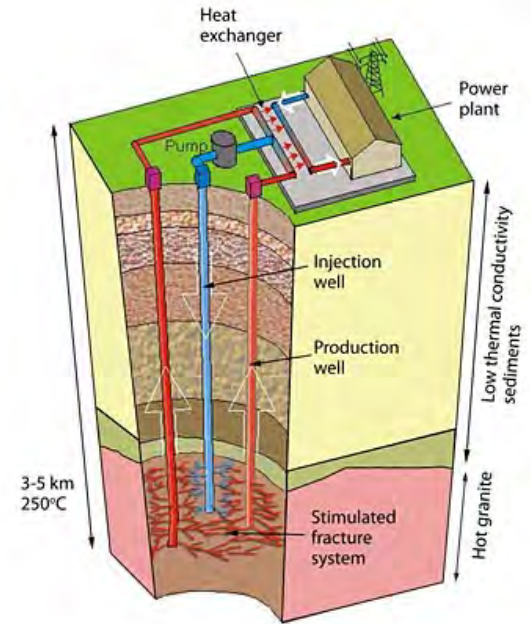
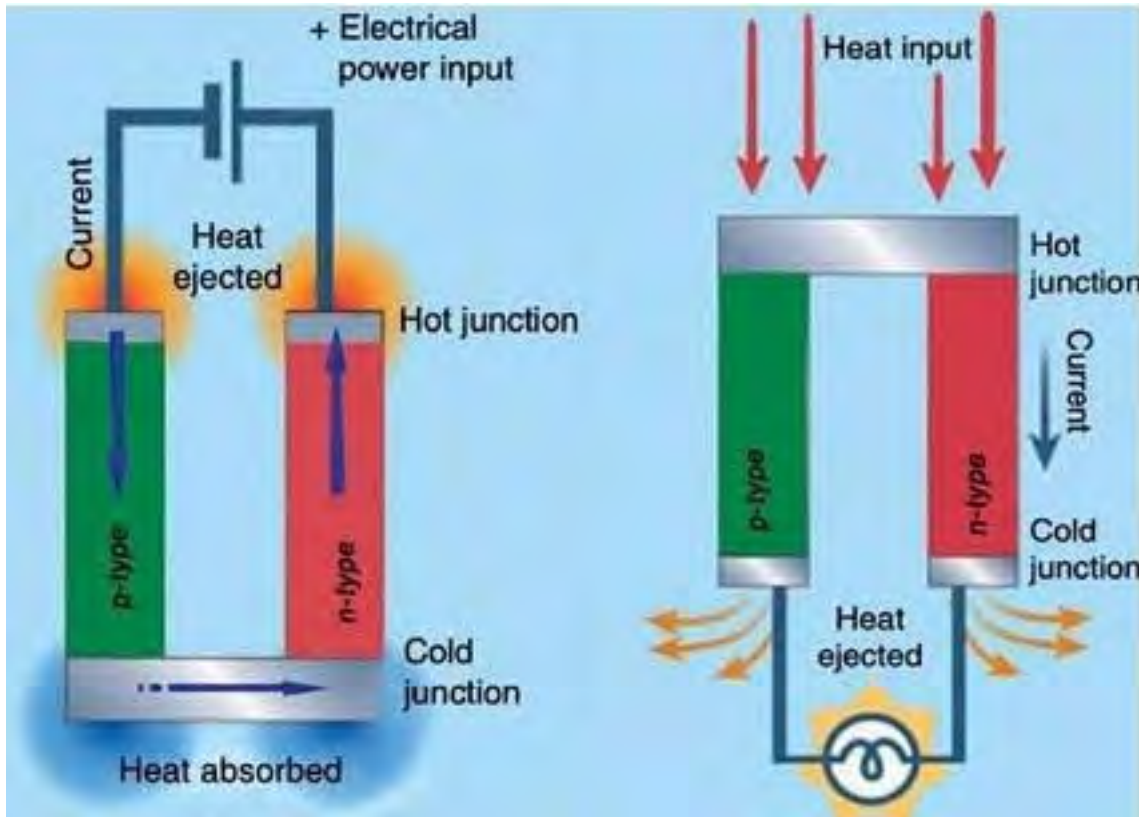




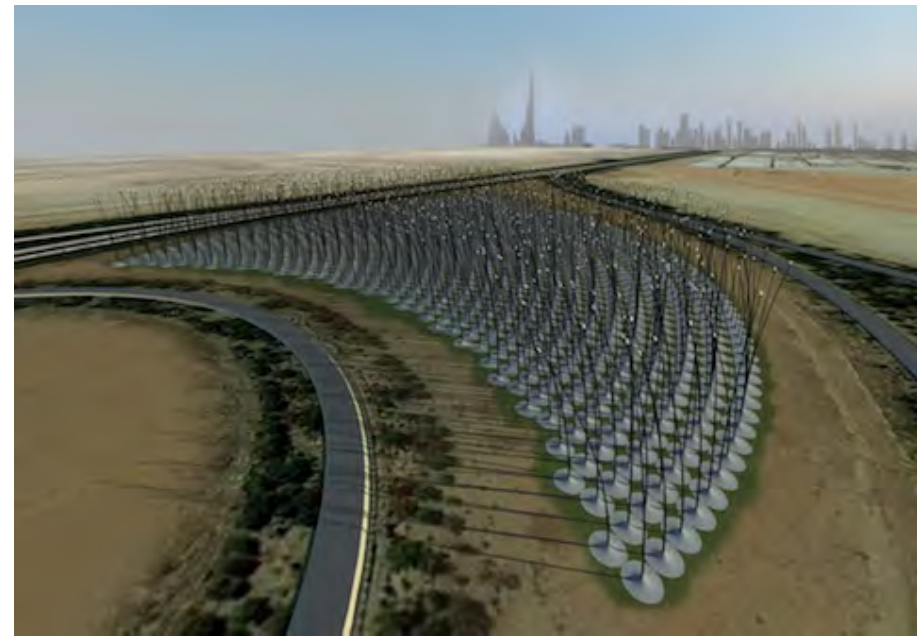
# Precedent studies:



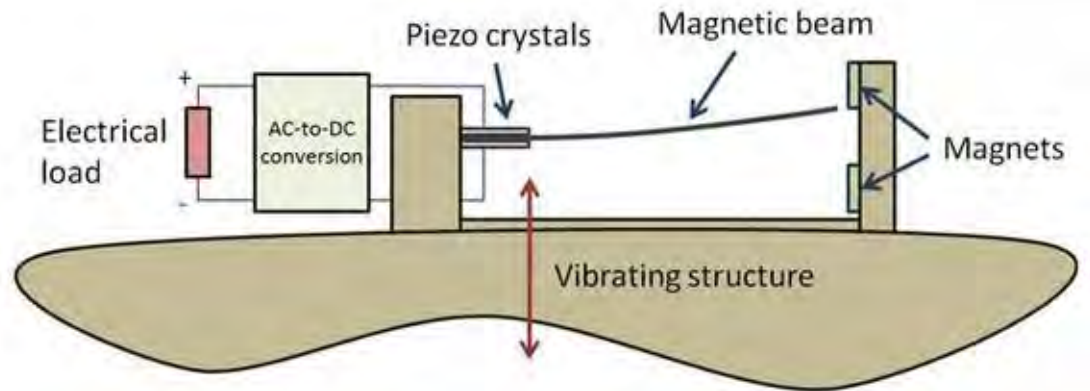
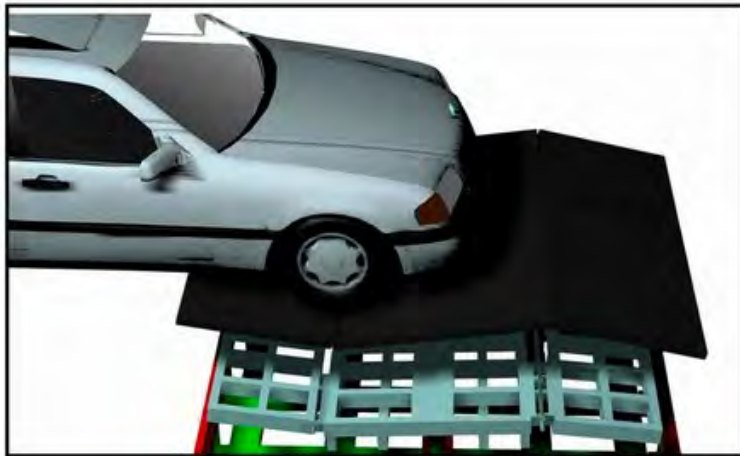
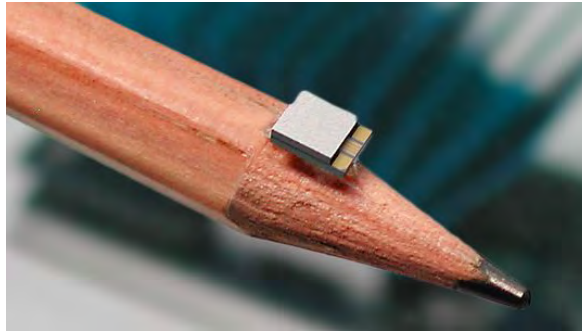
# Harvesting Energy



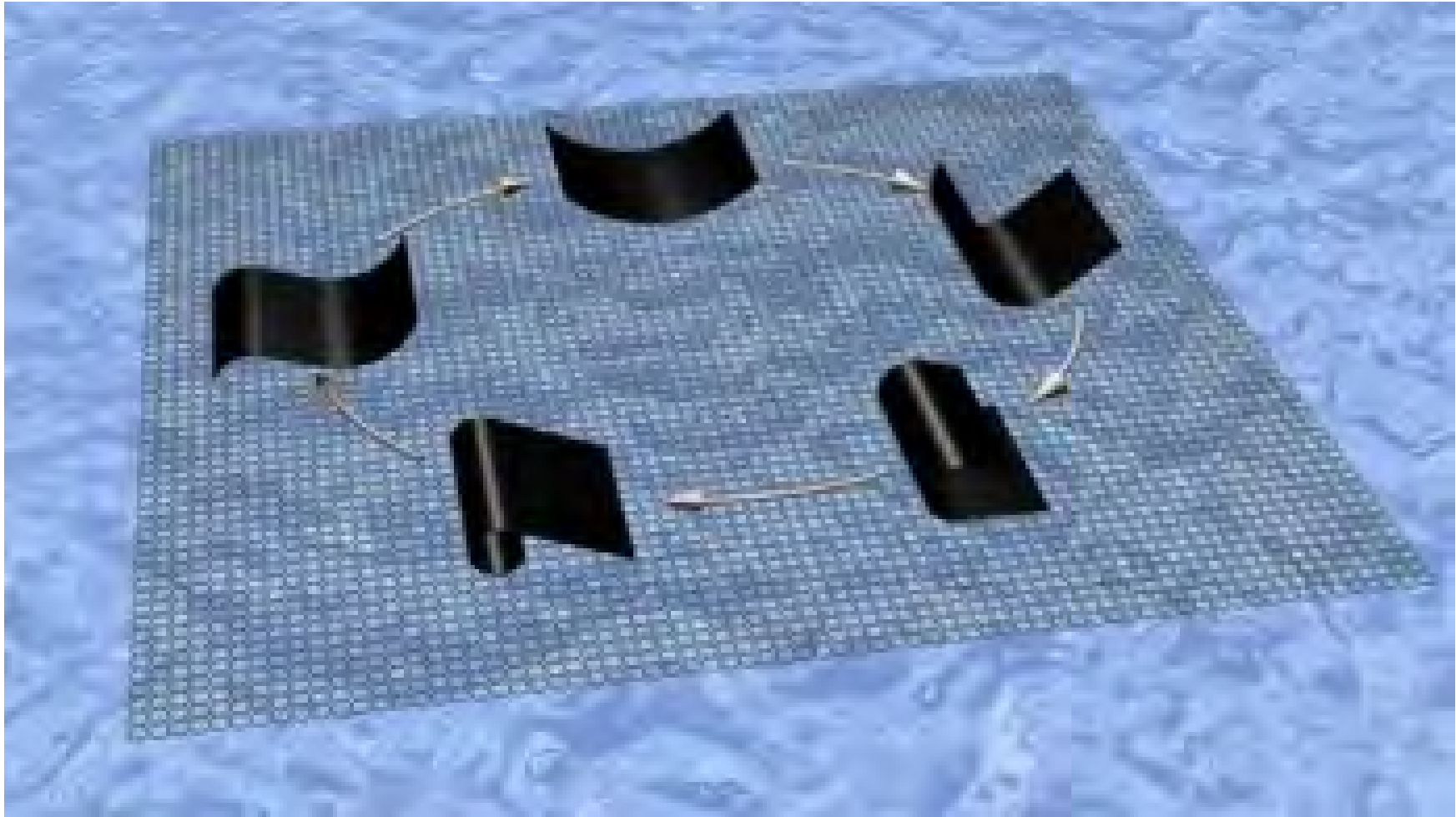
# Harvesting Energy



# Harvesting Energy



# Harvesting Energy



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