



**ENGAGING STUDENTS AND TEACHERS IN
BUILDING ECOLOGICAL SOLUTIONS TO COASTAL COMMUNITY HAZARDS (BESCCH)**

**Project Site and Scenario: Cape May Courthouse
Green Creek Bay Living Shoreline Project**

Location: Green Creek Bay shoreline and marsh (from Millman Boulevard north to Conswell Road)
Cape May Courthouse - Middle Township, New Jersey
Cape May County

Habitat Type: Tidal wetlands and dunes

Physical Description of Site: Green Creek Bay includes 2 miles of shoreline, a dune, and adjacent wetlands. In the past, the dunes provided physical protection to key features in the region, including community resources; residential areas; commercial properties; and public facilities. Prior to Superstorm Sandy there were only two breaches in the dunes that allowed bay water to flow into the wetlands. The superstorm created an additional seven breaches in the dunes. Saltwater now flows beyond the dunes and threatens these human resources, along with the ecosystem of the Green Creek Watershed.

GPS Coordinates: Center of site:
Latitude 39°03'39.6000"
Longitude -074°54'46.8000"

Goals for Site: The goal for this site is to protect and enhance the tidal estuary portion of Green Creek Watershed, where the watershed meets the Delaware Bay. Specifically, the plan must feature the creation of a sustainable dune that is adjacent to the Delaware Bay and that includes:

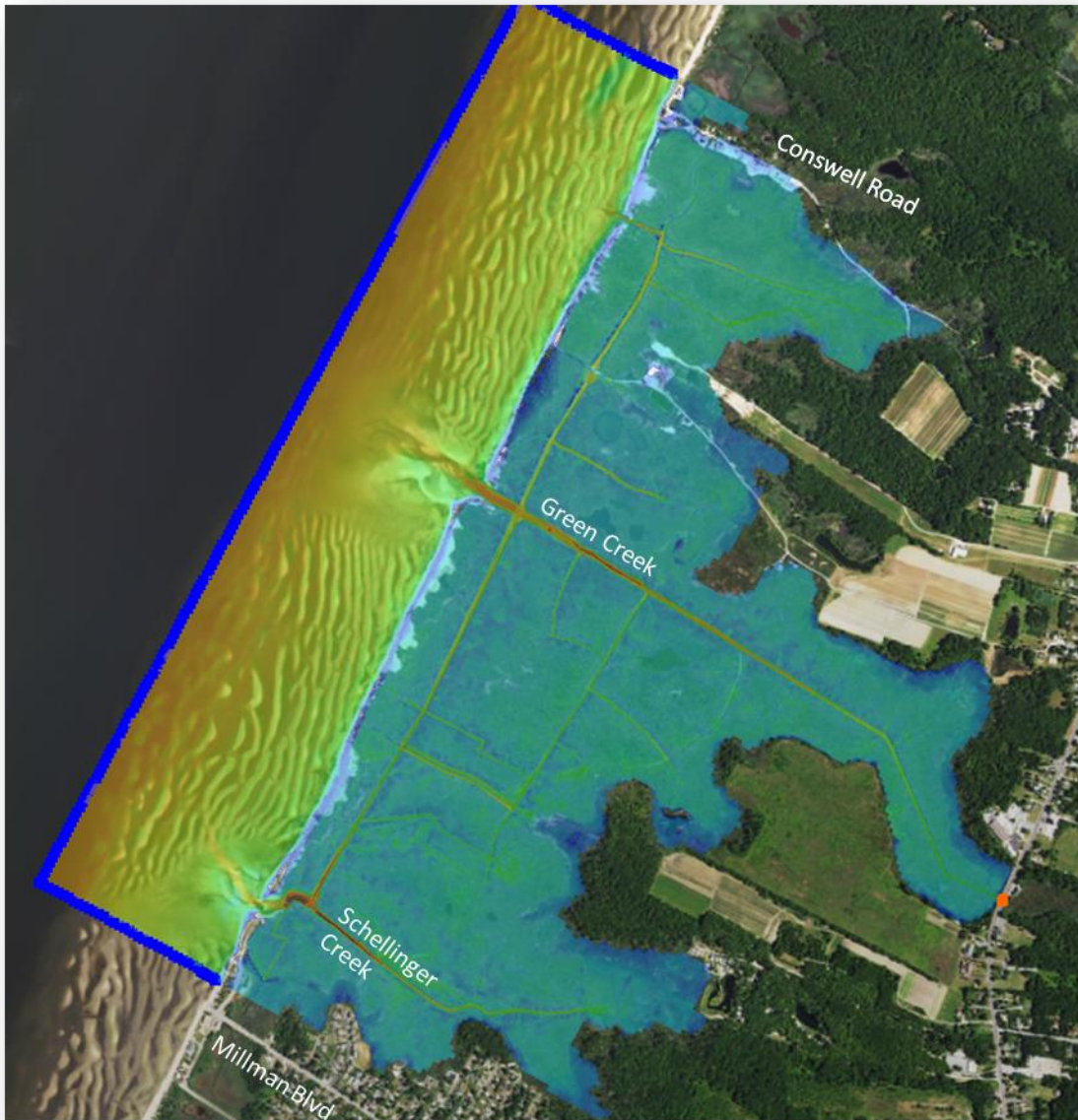
- Breeding areas for horseshoe crabs;
- Feeding areas for migratory birds; and
- Maritime forest habitats.

Your Design Challenge: To create a plan with ecological engineering design elements that addresses the goals for the site.

Your Plan Should Include:

1. What are your solution(s) for stabilizing the shoreline and reducing flooding (against future superstorms, high tides and high winds?) Why did you select these?
2. What are your solution(s) for creating and maintaining shoreline habitat? What plants, animals and ecological conditions will you create and/or consider? Why?
3. What structural features, if any, will you put into place to protect the upland area where human activities are being conducted? Where will these structural features be placed, and why?
4. What types of ecological monitoring practices will you use to study the site (over time) and determine if your resiliency solutions were successful and effective? Why would you use each of these practices?

Photographs: Cape May Courthouse
Green Creek Bay Living Shoreline Project



Aerial photograph/map showing Green Creek Bay shoreline

Photographs: Cape May Courthouse
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Existing conditions at Green Creek Bay shoreline



Existing conditions at Schellinger Creek