



BUILDING ECOLOGICAL SOLUTIONS TO COASTAL COMMUNITY HAZARDS (BESCCH)

A WEBINAR on “Ecological Solutions to Community Coastal Hazards”

March 29, 2017 1:00 pm – 2:00 pm (EST)

PARTNERS



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**NEW JERSEY
AUDUBON**



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**BARNEGAT BAY
PARTNERSHIP**
RESILIENT • EDUCATED • RESTORED

Presenters



Stacy Small-Lorenz, PhD
Climate Adaptation & Resilience Specialist
National Wildlife Federation



Jon Miller, PhD
Research Assistant Professor, Stevens Institute of
Technology



Linda B. Weber, AICP, PP
Resiliency Director, Sustainable Jersey and the
Sustainability Institute at The College of NJ



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Our Project and Team



BUILDING ECOLOGICAL SOLUTIONS TO COASTAL COMMUNITY HAZARDS (BESCCH)

- Three year project
- Funded by the Department of the Interior and administered by the National Fish & Wildlife Foundation
- Grant recipient: NJDEP Office of Coastal and Land Use Planning
- Team of nine+ partner organizations (public, non-profit, academic)
- Multiple disciplines – engineers, planners, ecologists, environmental scientists, educators



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Project Scope



BUILDING ECOLOGICAL SOLUTIONS TO COASTAL COMMUNITY HAZARDS (BESCCH)

- Direct assistance to 27 coastal and tidal communities (planning and restoration projects)
- Citizen monitoring, schools curriculum and blue acres design recommendations
- Development of an online, interactive technical guide (plans, policies, ordinances, and general resources)



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Incentivizing Ecological Solutions to Community Coastal Hazards

Linda Weber, AICP, PP, Resiliency Director
Sustainable Jersey and
the Sustainability Institute at The College of New Jersey

March 29, 2017

Sustainable Jersey



Sustainable Jersey identifies actions to help towns and schools become more sustainable



Provides tools, resources, and guidance to make progress



Provides access to grants and funding for participating communities

Municipal Certification Program



Successes of the Program

443 (78%) NJ municipalities registered
87% of NJ's population live in these communities

198 municipalities certified:

- **153 towns at bronze level**
- **45 towns at silver level**

Since 2009, municipalities have implemented over 6,000 discrete actions!

150

Bronze

350

Silver

Incentivizing ecological solutions to coastal hazards through local plans and policies

- Coastal Vulnerability Assessment
- Dune Vegetation Management Plan
- Community Forestry Plan
- Flood Management Plan
- Environmental Resource Inventory



Ecological solutions to coastal hazards through local plans and policies

*** Plans, studies and inventories are most effective if they are integrated into other policies, regulations and other decision-making processes**



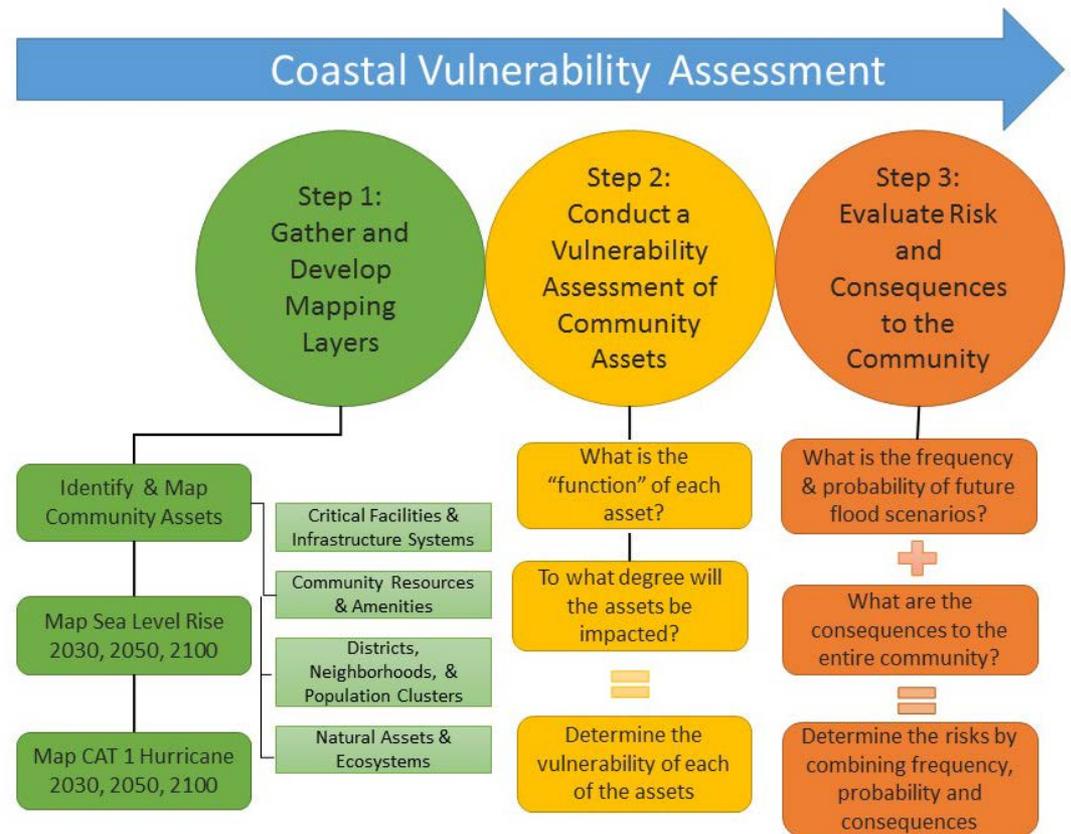
Key Documents for Integration

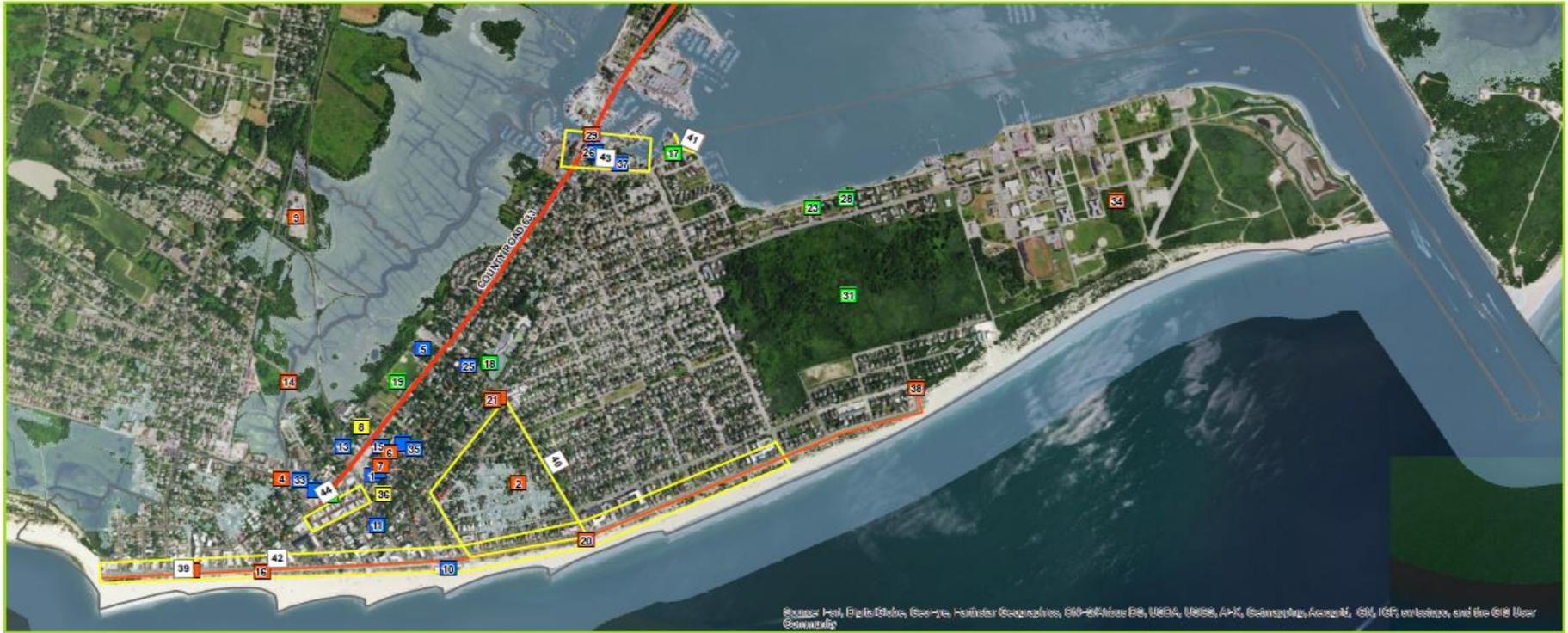
Master (or Comprehensive) Plan

All Hazard Mitigation Plan

A Coastal Vulnerability Assessment (CVA) analyzes

- 1) Where flooding will occur, how much, and the frequency
- 2) The impact of the flooding on community assets
- 3) The consequences those vulnerabilities pose to the community.





Source: Hill, Brightline, GeoEye, Earthstar Geographics, CNR/Airbus DS, USDA, USGS, AeroGRID, IGN, Esri, and the US Coast Guard

City of Cape May Coastal Vulnerability Assessment 2050 Sea Level Rise

Municipal Boundary
 Evacuation Route

Asset Categories

- Community Resources & Amenities
- Critical Facilities & Infrastructure Systems
- Districts, Neighborhoods, & Population Clusters
- Natural Resources & Ecosystems

Community Assets

- 1, ACME Market
- 2, Benton Avenue Pump Station
- 3, Cape Bank
- 4, Cape Island Creek Sluice Gate
- 5, Cape May City Elementary School
- 6, Cape May City Fire Department & OEM
- 7, Cape May City Hall & Police Department
- 8, Cape May City Housing Authority
- 9, Cape May City Public Works Complex
- 10, Cape May Convention Center
- 11, Cape May County Library
- 12, Cape May United Methodist Church
- 13, City of Cape May Welcome Center
- 14, Elmire Street Bridge
- 15, Franklin Street Civic Center
- 16, Grant Street & Beach Avenue Pump Station
- 17, Harborview Park
- 18, Kiwanis Park
- 19, Lafayette Street Park
- 20, Madison & Beach Avenue Pump Station

- 21, Madison & Michigan Avenue Pump Station
- 22, Madison Avenue Water Tank
- 23, Nature Center of Cape May
- 24, Patterson & Beach Avenue Pump Station
- 25, PNC Bank
- 26, Riggins Service Station
- 27, Rotary Park
- 28, Rutgers University Aquaculture & Fisheries Center
- 29, Schellengers Landing Bridge
- 30, Schellengers Landing Bridge
- 31, Sewell Point Tract
- 32, Sturdy Savings Bank
- 33, Swain's ACE Hardware
- 34, U.S. Coast Guard Training Center

- 35, U.S. Post Office
 - 36, Victorian Towers Senior Citizens Apartment Complex
 - 37, Wawa Market
 - 38, Wilmington Avenue Pump Station
- District Assets**
- 39, Beachfront District
 - 40, Froggy Hollow
 - 41, Harborview Bulkhead
 - 42, Rock Jetty Seawall
 - 43, Schellengers Landing Business District
 - 44, Washington Street Mall Business District

2050 Sea Level Rise

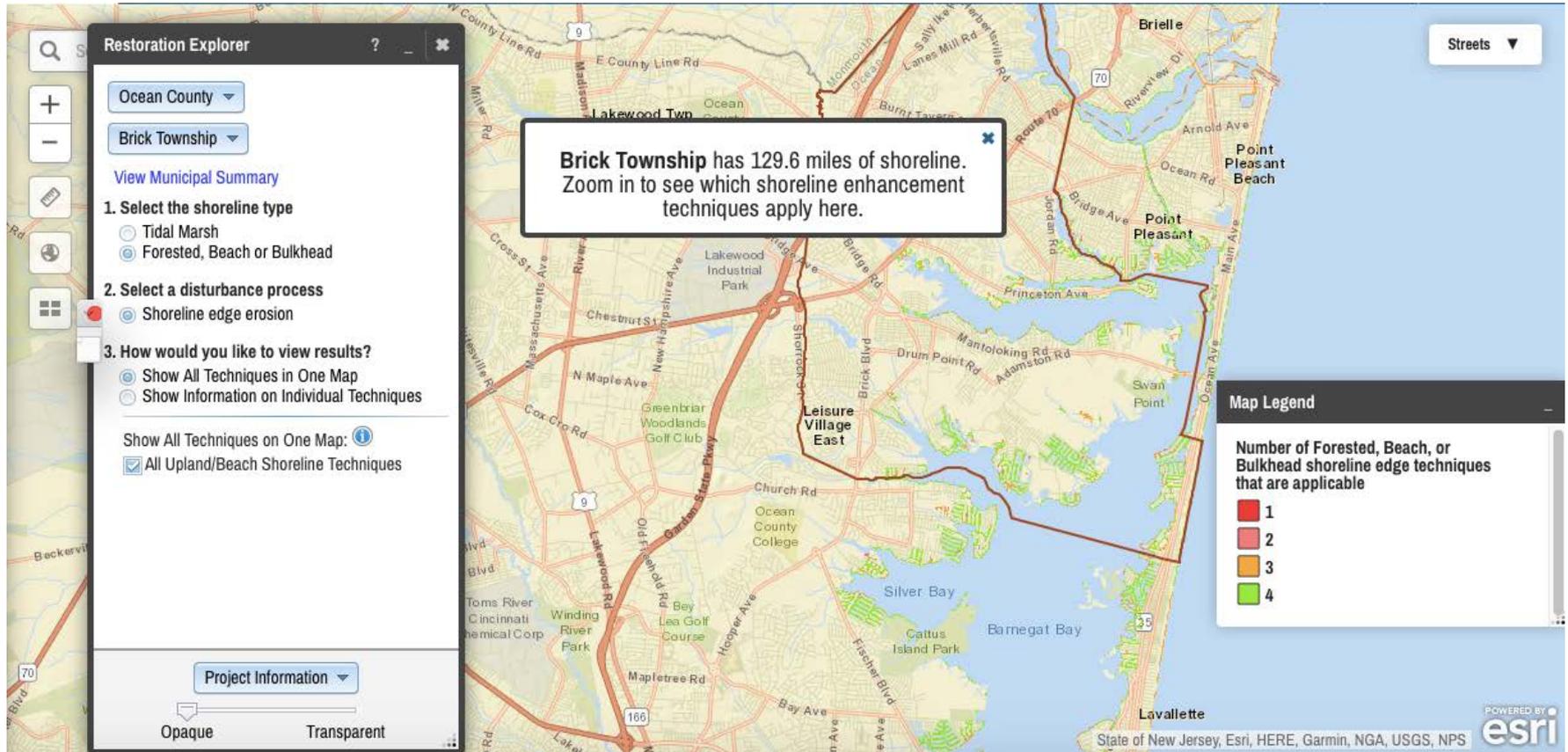
Depth

- High : 50 ft.
- Low : 0 ft.

0 0.175 0.35 0.7 1.05 1.4 Miles



Prepared by Sustainable Jersey
for the City of Cape May, August 2016



<http://coastalresilience.org>

Coastal Vulnerability Assessment Matrix (excerpt)

Table 1. Elsinboro Coastal Vulnerability Assessment Matrix Summary

Asset Name	Asset Category	Asset Function	Vulnerability Rating		Consequences Rating	
			Sea Level Rise	CAT1 Hurricane	Sea Level Rise	CAT1 Hurricane
Abbott's Farm Dyke	Critical Facilities & Infrastructure Systems	A dyke system used to control water levels and protect properties in the wetlands complex to the North of the dyke.	Moderate	High	High	High
Abel Nicholson House	Community Resources & Amenities	A historic farm house, currently unoccupied, and placed on the National Historic Register.	NA	Low	NA	Moderate
Beaches	Natural Resources & Ecosystems	The beach along the Delaware River extending from the Southern end of South Oakwood Neighborhood and running north to the mouth of the Salem River.	High	High	High	High
Drenk Behavioral Center	Community Resources & Amenities	A treatment center that primarily focuses on mental health and substance abuse services.	High	High	Insignificant	Insignificant
Elsinboro Fire Company	Critical Facilities & Infrastructure Systems	The Fire Company provides emergency services, both firefighting and EMS, for the Township.	NA	High	NA	High
Elsinboro Municipal Building	Critical Facilities & Infrastructure Systems	The Elsinboro Municipal Building operates as the Elsinboro Township administrative building.	NA	Low	NA	Low
Elsinboro Point	Natural Resources & Ecosystems	A small public access area owned and operated by PSE&G.	Insignificant	Insignificant	NA	NA
Elsinboro School	Community Resources & Amenities	A public elementary school that serves students from Kindergarten through the 8th Grade.	NA	NA	NA	NA



Dune Vegetation Management Plan

- Plant types
- Planting depths and spacing
- Planting schedule
- Sand fencing materials & instructions



USDA Natural Resources Conservation Service
Plant Materials Program
United States Department of Agriculture

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NJPMC

Cape May Plant Materials Center (NJPMC)

Serving areas in the States of Connecticut, Delaware, Maryland, Massachusetts, Long Island- New York, New Jersey, North Carolina, Rhode Island, and Virginia

Established: 1965

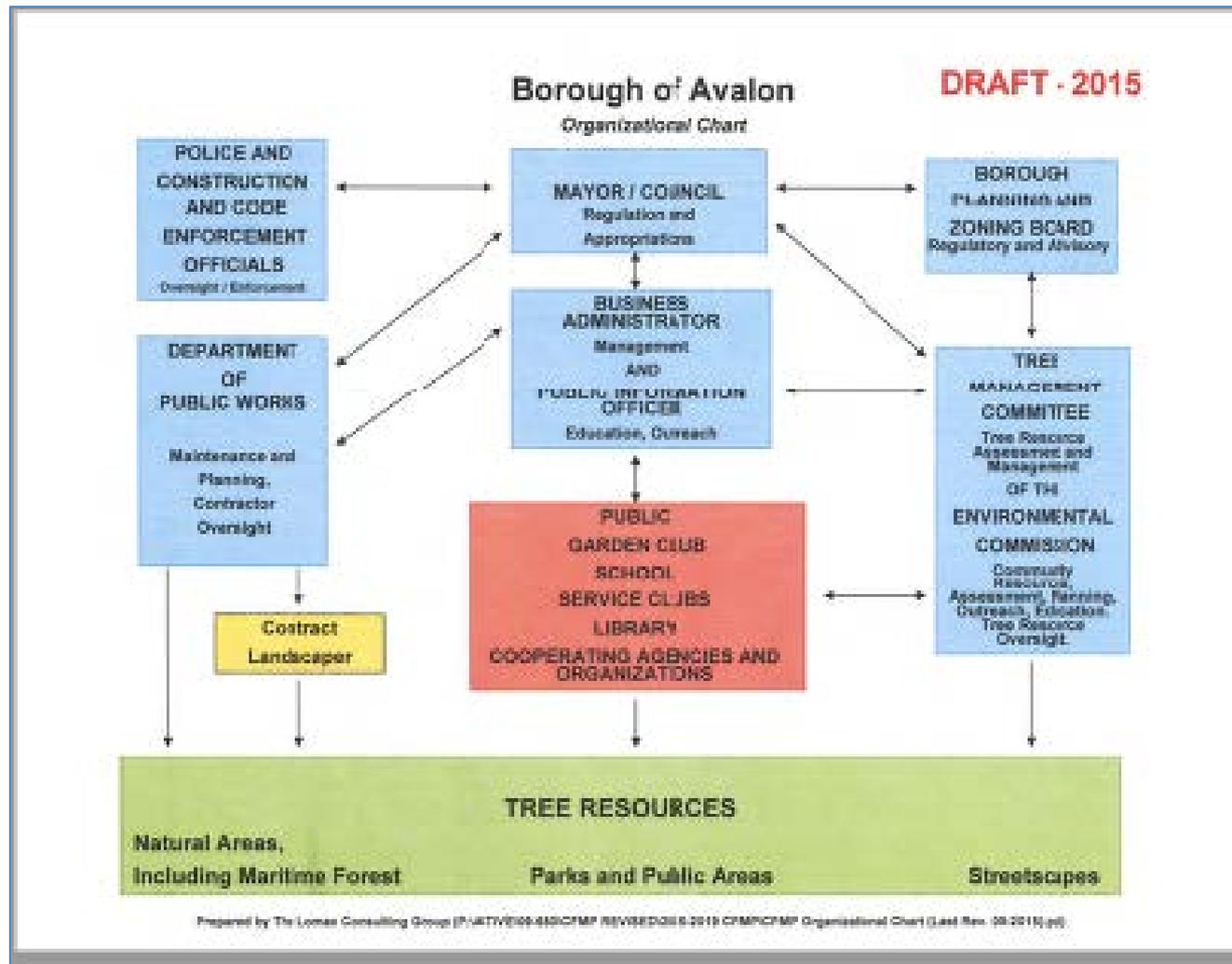
Size: 88 acres

PMC Operation: NRCS

Land Ownership: NRCS and the State of New Jersey



(Everyone has a role to play)



Flood Management Plan

- Flood areas, hazards and mitigation measures
- Incorporate vulnerability assessment
- Beach and dune profiles
- Cross reference relative policies and ordinances, e.g. open space preservation plan, stormwater management regulations, ecosystem typologies, vegetation plans, habitat inventories



Environmental Resource Inventory



Standard maps and data: water bodies, threatened & endangered species, geology, soils, open space and climate.

Added value:

- ✓ Future flood projections – sea level rise and storm surge
- ✓ Acknowledge the flood mitigation value of coastal marshes
- ✓ Map existing and predicted marsh retreat
- ✓ **Include inventories of native vegetation by ecosystem typology**

Table 9: Plants of the Dune Woodland Community (after Collins and Anderson 1994, pp. 220)			
Common Name	Scientific Name	Common Name	Scientific Name
Trees		Trees	
Red Cedar	<i>Juniperus virginiana</i>	Black Cherry	<i>Prunus serotina</i>
American Holly	<i>Ilex opaca</i>	Red Maple	<i>Acer rubrum</i>
Hackberry	<i>Celtis occidentalis</i>	Sassafras	<i>Sassafras albidum</i>
Pitch Pine	<i>Pinus rigida</i>		

Excerpt from the Upper Township NRI (table is continued)

Upcoming Technical Assistance Calls

Dates for Energy Technical Assistance calls:

- April 26th, 7:00 – 8:00 PM
- May 16th noon – 1:00 PM

Registration is not required! Log in through Go to Meeting at this link:

<https://global.gotomeeting.com/join/842038685>

You can also dial in using your phone.

United States (Toll Free): 1 877 309 2070



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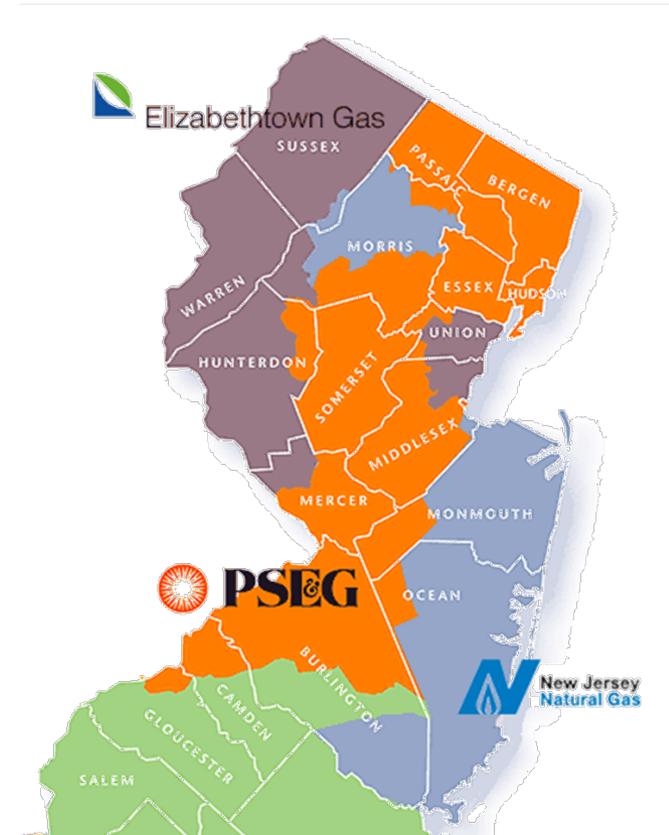
FREE Technical Assistance with Energy Actions

Partnership with the Environmental Defense Fund (EDF) and New Jersey Natural Gas (NJNG) to assist municipalities and school districts within [NJNG service territory](#) in completing Sustainable Jersey energy actions.

Full-time, on-site support will be provided for 10 weeks in the summer of 2017.

Click [here](#) for application and more information.

Learn how the EDF Fellows can help your town: [Lessons from the Field: EDF Climate Corps Fellows Document Municipal and School Progress in Sustainable Jersey](#)



Application Deadline: Friday, April 14, 2017 at 11:59pm



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Upcoming Events

Coding for Community Wrap Up Event MARCH 31, 2017 - 9:00 AM TO 12:30 PM THE COLLEGE OF NEW JERSEY

Library Auditorium, Basement Level, 2000 Pennington Road, Ewing, NJ 08628-0718

Coding for Community is Sustainable Jersey's first civic tech competition, pairing New Jersey municipalities with the technologists to develop solutions to local sustainability and public engagement issues.

Get more information on the competition [here](#).

To RSVP, email Lauren at skowronl@tcnj.edu or call (609) 771-3129.

Visit the TCNJ campus map [here](#).



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Upcoming Events



Landscaping for a Healthy Environment (Webinar)

APRIL 26, 2017 - 1:00 PM TO 2:00 PM

[REGISTER](#)



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Upcoming Events



Save the Date:
2017 New Jersey Sustainability Summit
June 21, 2017
The College of New Jersey

The 2017 New Jersey Sustainability Summit will explore how coordinated local action can achieve an increased collective impact. As federal and state budgets decline, there is renewed energy at the local level to make progress. For information about registering, visit www.sustainablejersey.com



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