Disaster Response –
New Jersey Soil Conservation Districts Assistance in the Aftermath of Superstorm Sandy

NACD – Urban and Community Conservation Webinar

December 19, 2013

Christine Raabe, District Director

Ocean County Soil Conservation District

New Jersey Soil Conservation Districts Protect Water Resources

Technical Staff at SCDs (there are 15 in NJ) that are local subdivisions of the ***State Department of Agriculture***

- Accept and Review applications for ANY land disturbance **greater than 5,000 square feet.**

- Inspect all construction projects to ensure compliance with the ***Soil Erosion and Sediment Control Act (Chapter 251)*** and adherence to Soil Erosion and Sediment Control Standards.
- SCDs are strictly **fee-based** – and receive no State or County funding.

New Jersey's Soil Conservation Districts – Standards for Best Management Practices

- Soil Erosion and Sediment Control Act –Limit of SCD Legislative Authority

- Ten vegetative standards and 22 engineering standards are proposed as practices applicable to soil erosion and sediment control on land disturbance activities subject to the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq.

New Jersey is NOT ALONE
Disasters can strike ANYWHERE

Natural Disasters-

- A **natural disaster** is a major adverse event resulting from **natural processes** of the Earth; A natural disaster can cause loss of life or property damage, and typically leaves some economic damage in its wake, the **severity** of which depends on the affected population's **resilience, or ability to recover.**
- **An adverse event will not rise to the level of a disaster if it occurs in an area without vulnerable population.**
- **The impact has EVERYTHING to do with the local landscape – environmentally, culturally, economically.**

The List Long – The Impacts Devastating

- *hurricanes, tornadoes, tsunamis, typhoons, volcanic eruption, avalanche, blizzard, drought, earthquake, heat wave, flood, famine, landslide, sandstorm, wildfires . . .*

- Recognize and Acknowledge Others . . .

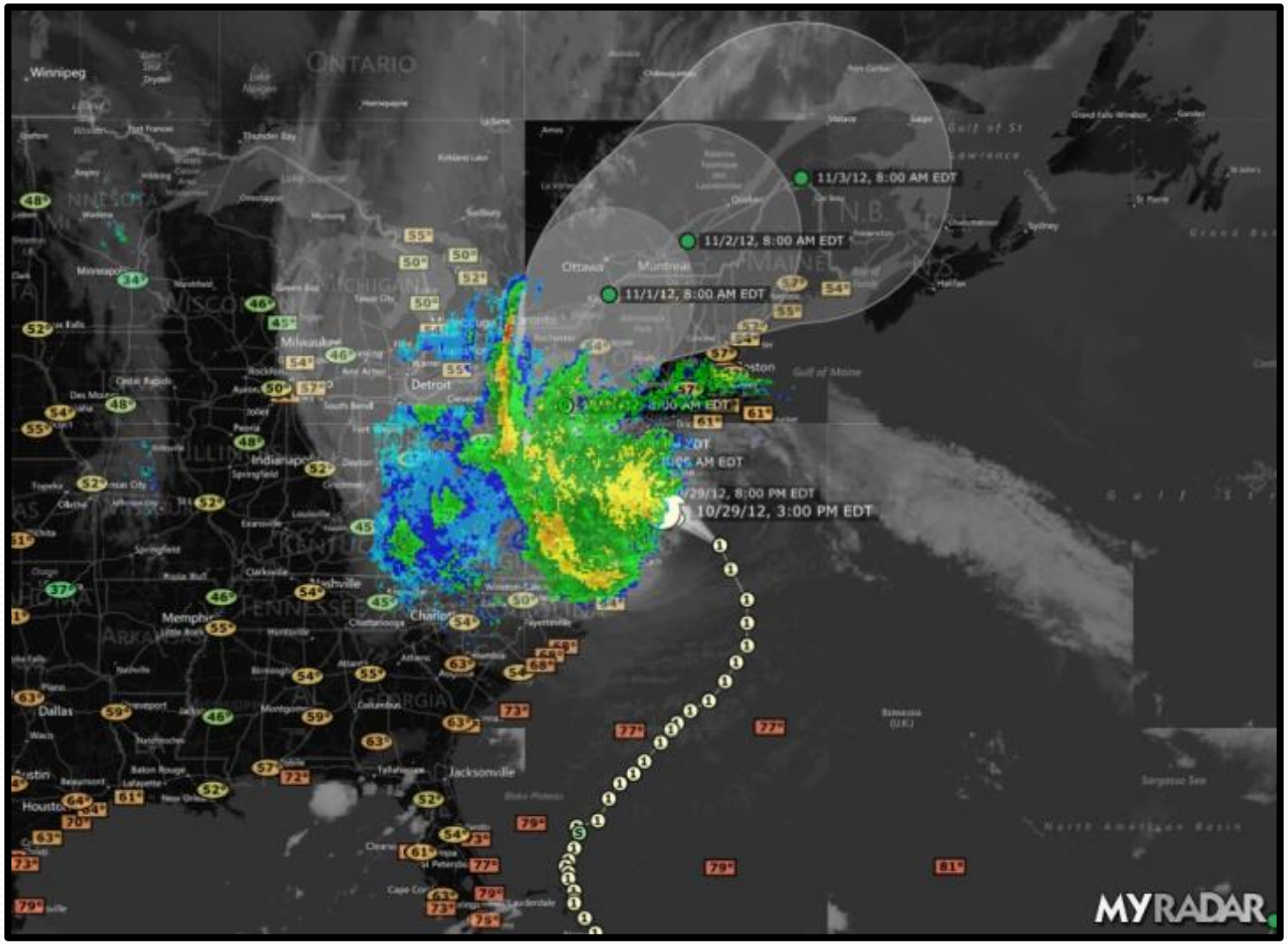
Increased Vulnerability = Increased Loss & Damage

- *Risk Management*
- *Preparedness*
- *Evacuation Routes/Plans*
- *Warning System*
- *People's Perception of Danger*

New Jersey's Coastal Communities– extremely vulnerable and susceptible to damage.

Governor Christie issued mandatory evacuation orders for NJ coastal communities on 10/28/12 – saving literally thousands of lives.

Sandy Batters East Coast – 10/29/2012

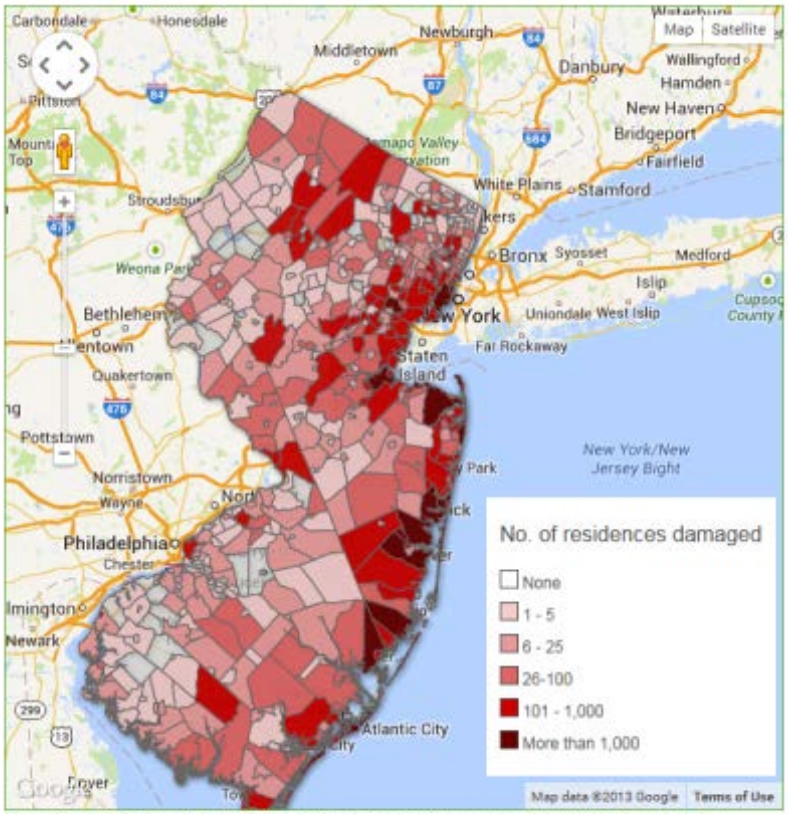


NJ – 21 Counties – 565 Municipalities

New Jersey, the fourth-smallest state, covers 8,722 square miles (22,590 km²)

Statewide, nearly 87,000 housing units were damaged, about 12,500 of those either sustaining major damage or being destroyed.

Nearly 400,000 businesses were impacted, as well.



The total number of homes and rental units damaged by Superstorm Sandy. Click on a municipality to see details on damages to homes and businesses.

Source: NJ Department of Community Affairs

New Jersey
Department of Community Affairs

COMMUNITY DEVELOPMENT BLOCK GRANT DISASTER RECOVERY ACTION PLAN

For CDBG-DR Disaster Recovery Funds
Disaster Relief Appropriations Act of 2013

Table 2-4 Housing Stock with Flood Damage as a Result of Superstorm Sandy

County	Total Housing Units with Flood Damage Greater than 1 Foot	Total Housing Units with Flooding Greater than 1 Foot
OCEAN	24,134	18,262
MONMOUTH	12,809	9,664
ATLANTIC	10,324	7,472
HUDSON	5,129	4,061
BERGEN	3,193	2,573
MIDDLESEX	2,877	1,589
CAPE MAY	2,867	2,005
UNION	1,082	496
ESSEX	859	261
CAMDEN	409	73
SALEM	222	133
SOMERSET	217	32
CUMBERLAND	209	105
BURLINGTON	186	103
MERCER	182	15
PASSAIC	112	11
MORRIS	104	22
GLOUCESTER	79	32
SUSSEX	64	19
WARREN	39	11
HUNTERDON	28	3
TOTAL	65,125	46,942

Source: FEMA Individual Assistance Data effective February 27, 2013

BIG Price Tag!

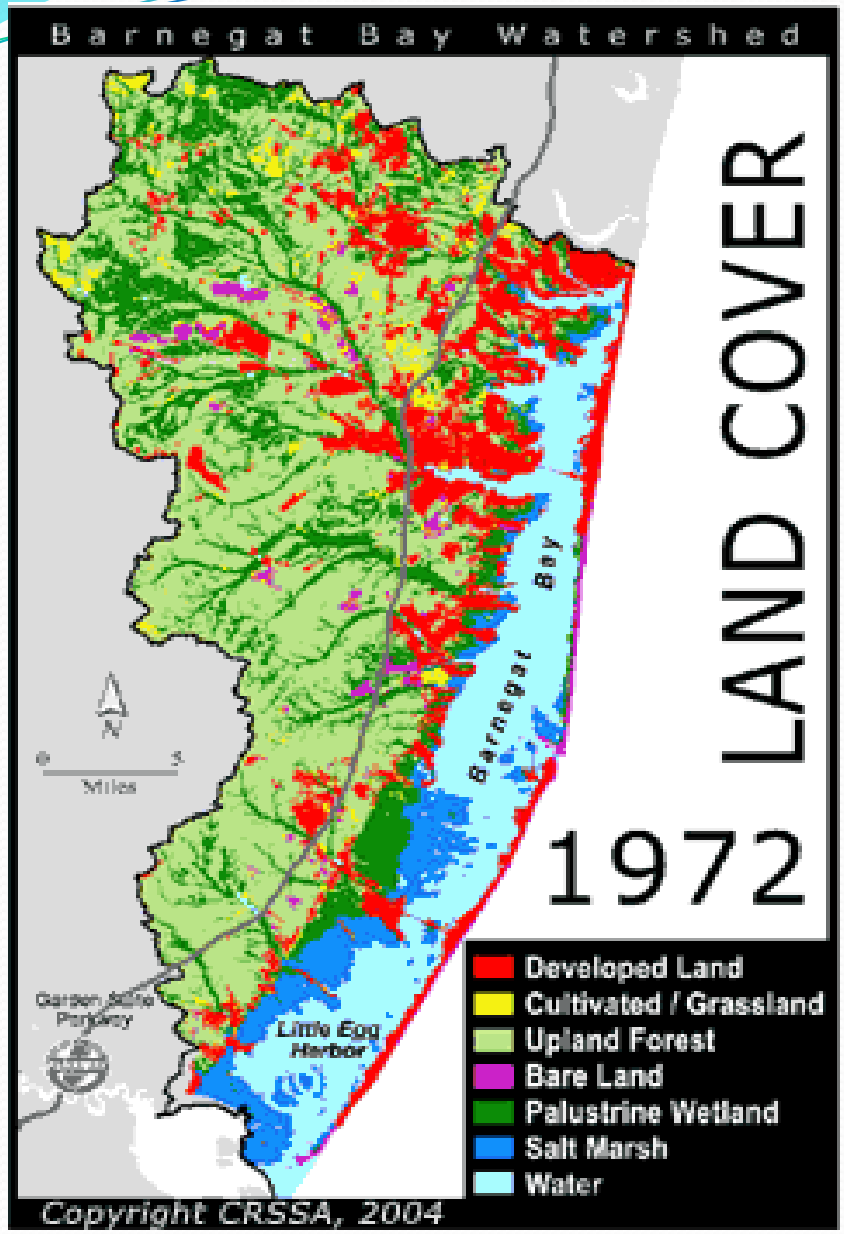
Superstorm Sandy caused unprecedented

damage to New Jersey's housing, business, infrastructure,

health, social service and environmental sectors.

Damages and economic losses from Superstorm Sandy were estimated to be nearly $37 billion in New Jersey.

Ocean County is "The Jersey Shore"



Impervious/Developed Land – Has put us in the "red" for flood control!

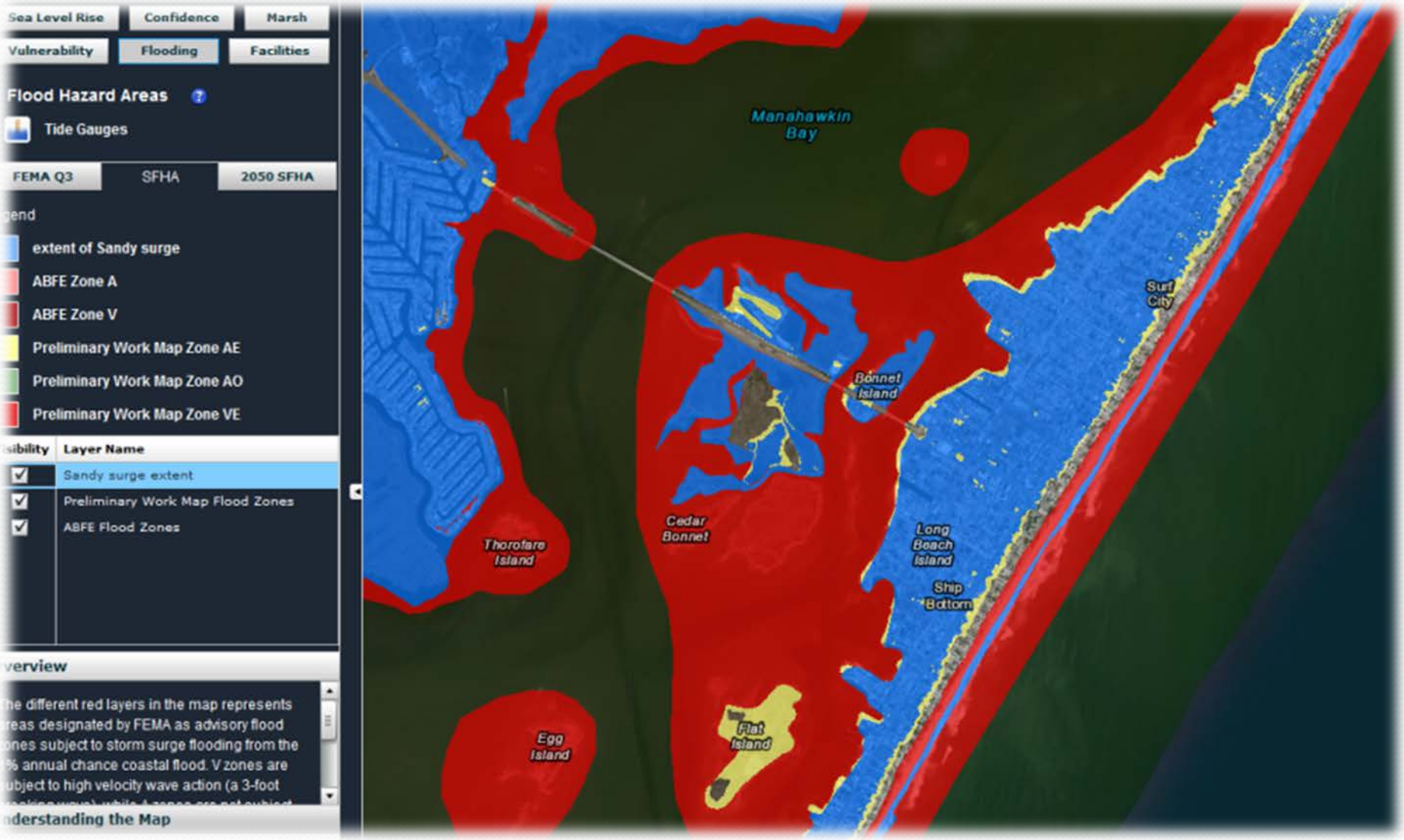
- **Fastest Growing County in New Jersey**
- **Fulltime Population: 579,379 (1/2013) (Populations doubles to 1 million + in summer months)**
- **71% of Barnegat Bay's shorelines are developed or altered**
- **8% loss of tidal wetlands 1995-2007**

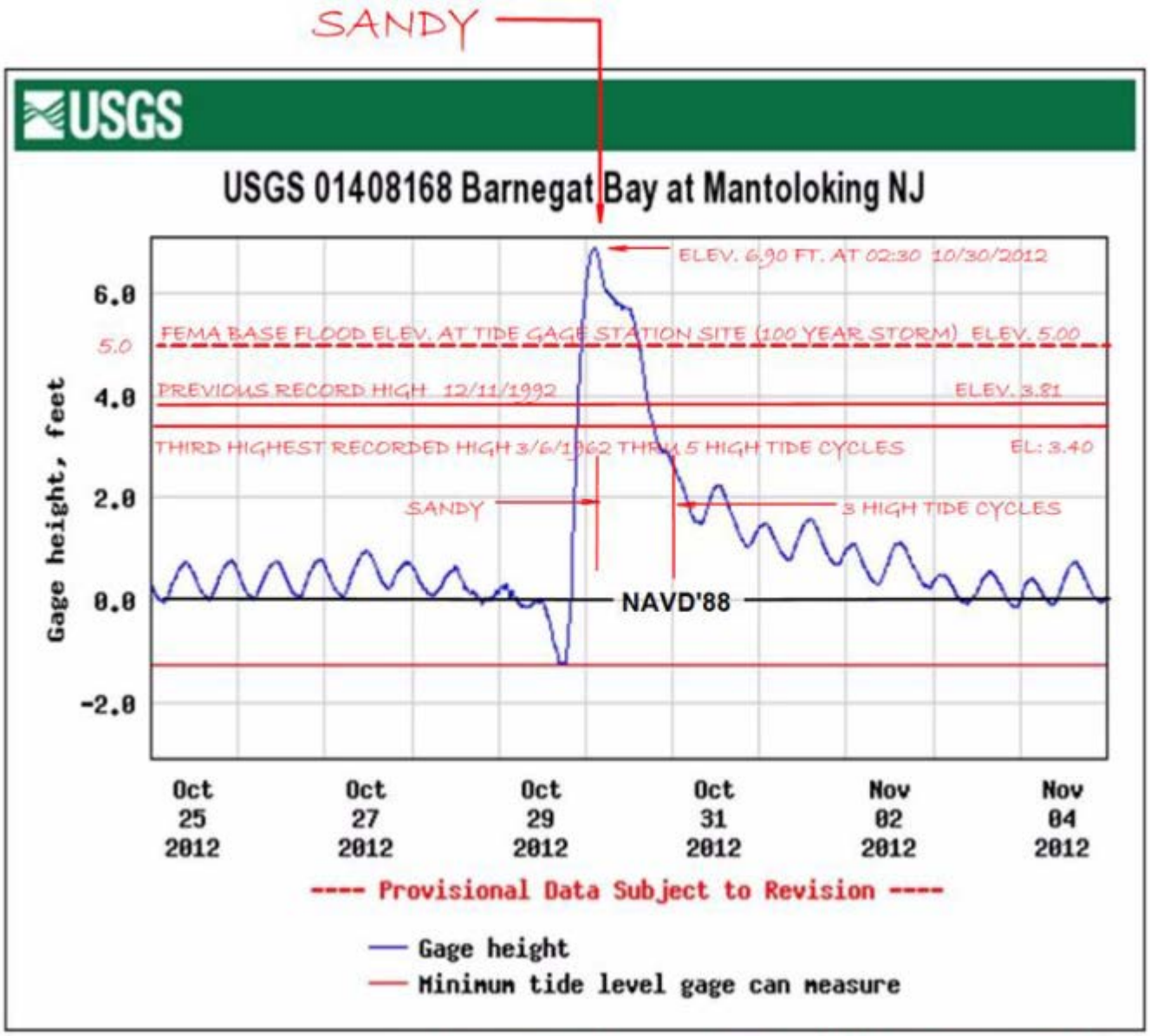
Coastal Barrier Island Development

Ocean County Coastline

FEMA Preliminary Maps

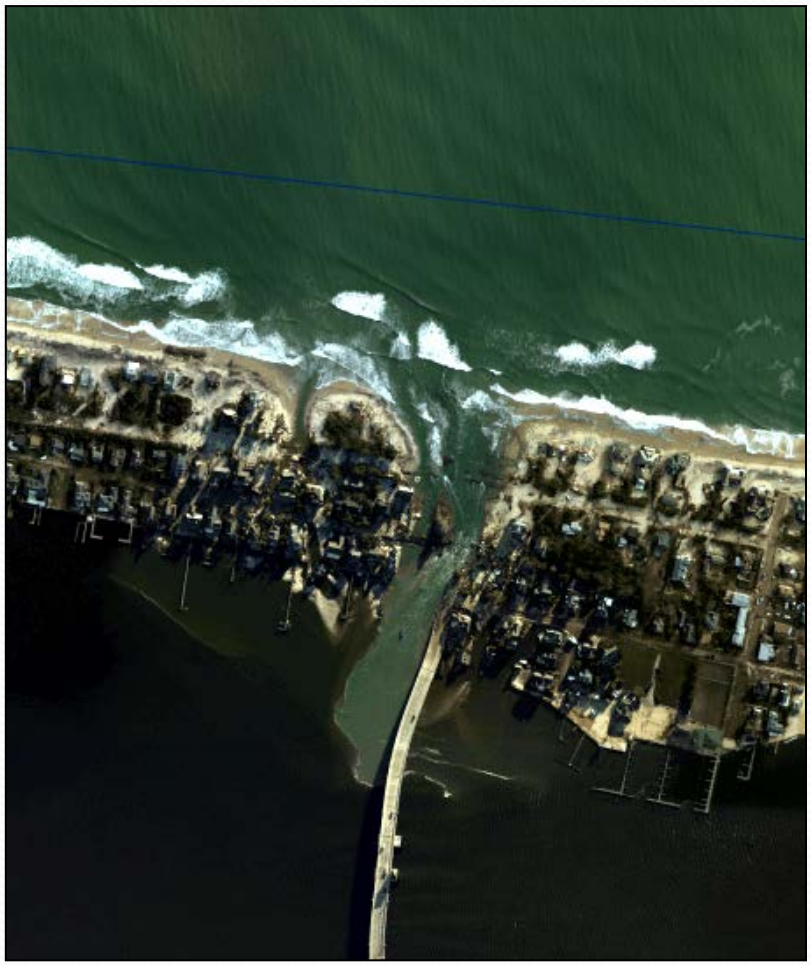
FEMA Preliminary Maps and Sandy





HAND WRITTEN ANNOTATIONS IN RED BY B. McGRATH, PLS

Mantoloking Bridge Breach – One Point of Perspective



Google
BEFORE
AFTER
Herbert St
Bay Ave
Ocean Blvd

Devastating Damage to Homes & Infrastructure – At Mantoloking Bridge

Ocean County & the Barnegat Bay is "home" to an estimated 100,000 + boats.

Thousands of boats were damaged or destroyed.

Iconic Rollercoaster and Boardwalk Destroyed – Seaside Heights, Ocean County

Staggering Losses -

- *Ocean County:*

The bayside communities of **Toms River and Brick alone hold 11% of Ocean County's total** damaged homes in concentrated neighborhoods. More impressively, is that they also account for nine percent of the total damaged homes in the *entire State of New Jersey*.

Damage in these communities was most concentrated along the mainland peninsulas jutting out in the most northern reach of Barnegat Bay. However, even though the volume of flooded homes was staggering in these communities, only 4% of their flooded homes saw more than four feet of water.

That said this still accounts for 21% of all homes in Ocean County with the most severe flooding and 7% of the state's total.

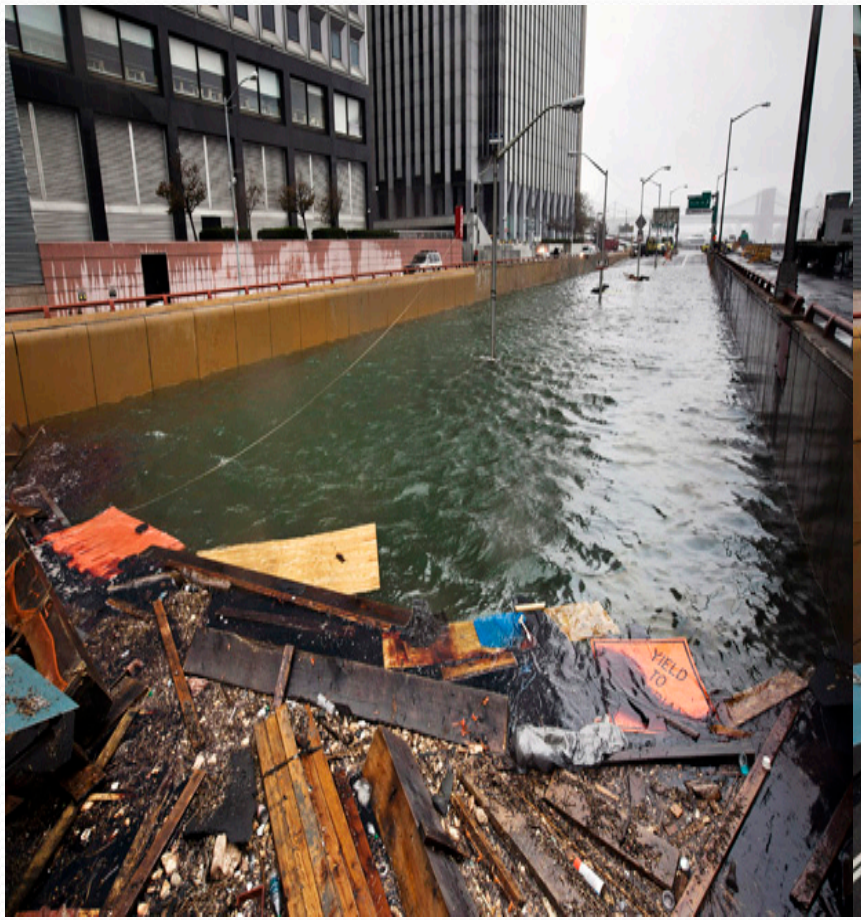
Flooding was only part of the Problem – Downed Trees caused Damage and Dangerous Conditions

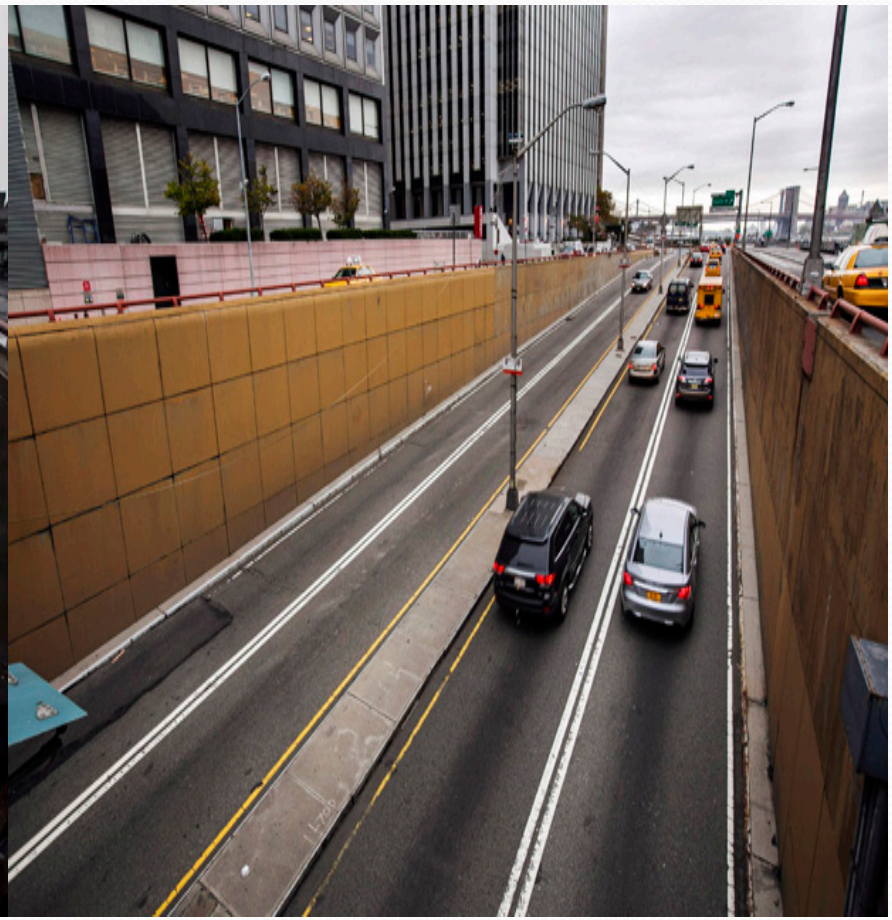
FILE - In this Oct. 31, 2012 file photo, a tree in Jersey City, N.J., lies tangled in power lines after being brought down by high winds from Superstorm Sandy. ***Experts say the winds of Superstorm Sandy took out more trees in the neighborhoods, parks and forests of New York and New Jersey than any previous storm on record.*** (AP Photo/Charles Sykes, File) Photo: Charles Sykes, *Associated Press*

A downed tree clogs a road in Brick, Ocean County, N.J. New Jersey utilities reported more than 113,000 destroyed or damaged trees.

Photo: Julio Cortez, Associated Press

Cities Inundated with Storm Surge





Roadways became Waterways – Access to Island Limited for Months after the Storm

Debris Lined the Streets for Months after the Storm

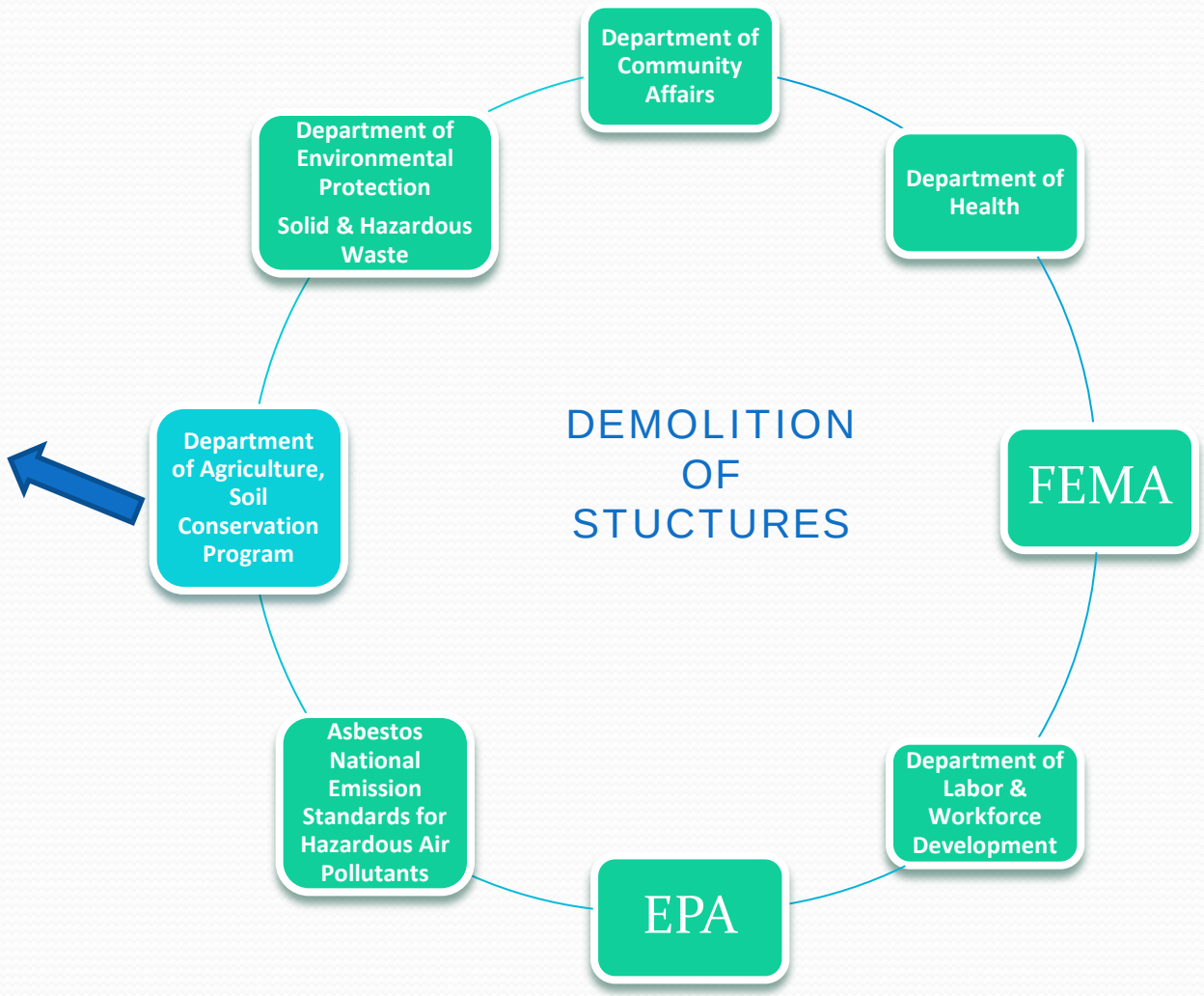
Demolish and Rebuild/Raise

Where Homes Once Stood

OCSCD staff met with select coastal municipal administrators to clarify regulations at a number of local meetings.

Soil Conservation District works with many "new" partners to implement the EPA Guidance regarding disposal of the debris from private residences.

Unfortunately, guidance didn't come until May 2013 (nearly 7 months later!)



Several New Jersey state agencies, as well as the United States Environmental Protection Agency (USEPA) have regulations applicable to the demolition and disposal of private residences. (Guidance Issued May 2013)

Demolition and Rebuilding – A New Landscape – Raising - 9-12 feet

Ocean County SCD – Increase in Workload – Recovery is SLOW. . .

- Super Storm Sandy Related Projects – (As of 9/4/13)

- **Exemptions Applied for by Municipalities for Demolition ONLY:** (* no immediate plan for rebuild/new construction – will come in under regular application at that time)

Toms River: 260
Mantoloking: 92
Brick: 322
Total - 674

Anticipate that – eventually - all of the damaged homes will be rebuilt and require a SESC Plan.

Resiliency – NJ – "Stronger than the Storm"

FEMA – Paying for Damages

- According to the Center for American Progress – the federal government spent **$136 Billion** total from fiscal year 2011 to fiscal year 2013 on Disaster Relief.

Whole Community Approach

- **OPTIONS:**
- *Elevate*
- *Relocate*
- *Acquire/Buy-out*
- ** **Difficult choices when this is YOUR home, YOUR business, YOUR family.**

Lessons in Customer Service – Critical to Put Things in Perspective

Important to REMEMBER- the stress/loss/frustration of your clients.

Soil Erosion Control IS NOT on top of their list!

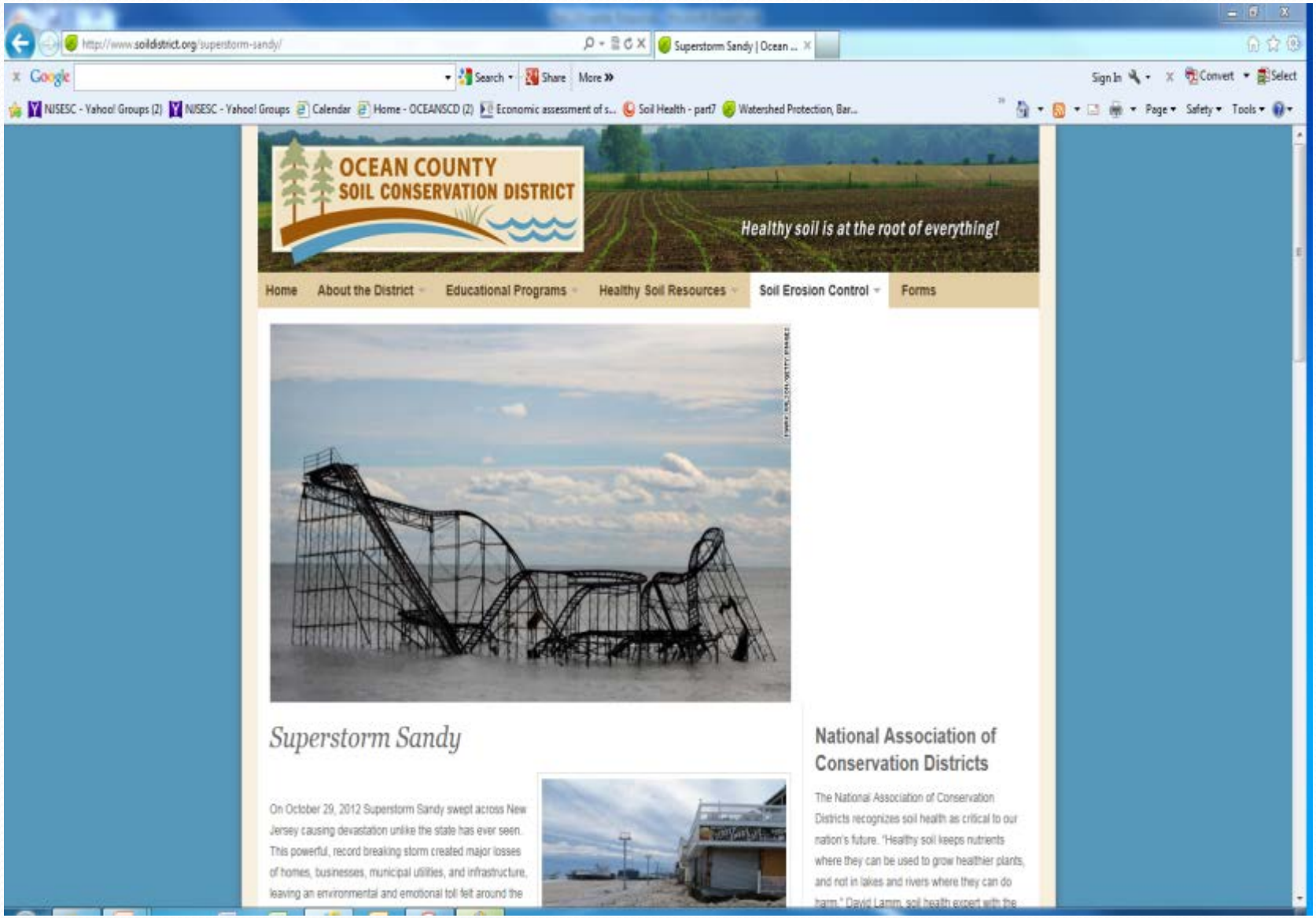
Keeping People Informed

- *Frustration, Confusion, Numerous Questions Weighing on People's Minds . . .*

- **Conservation Districts' role is to bring information from MULTIPLE sources to the <u>local community –</u>**

Sharing resources for getting answers to questions.

http://www.soildistrict.org/superstorm-sandy/



Bringing Together Information – Many Things Outside the Usual Jurisdiction of Soil Districts-

Excerpt from OCSCD Website

- ***New Jersey Department of Environmental Protection***
- The New Jersey Department of Environmental Protection website provides information on rebuilding after Sandy, recovery information, and lists resources, press releases, guidelines for rebuilding, and up to date alerts for the residents of New Jersey. Please also visit the New Jersey Office of Emergency Management for additional Hurricane Recovery information.
- New Jersey Department of Environmental Protection Home Page

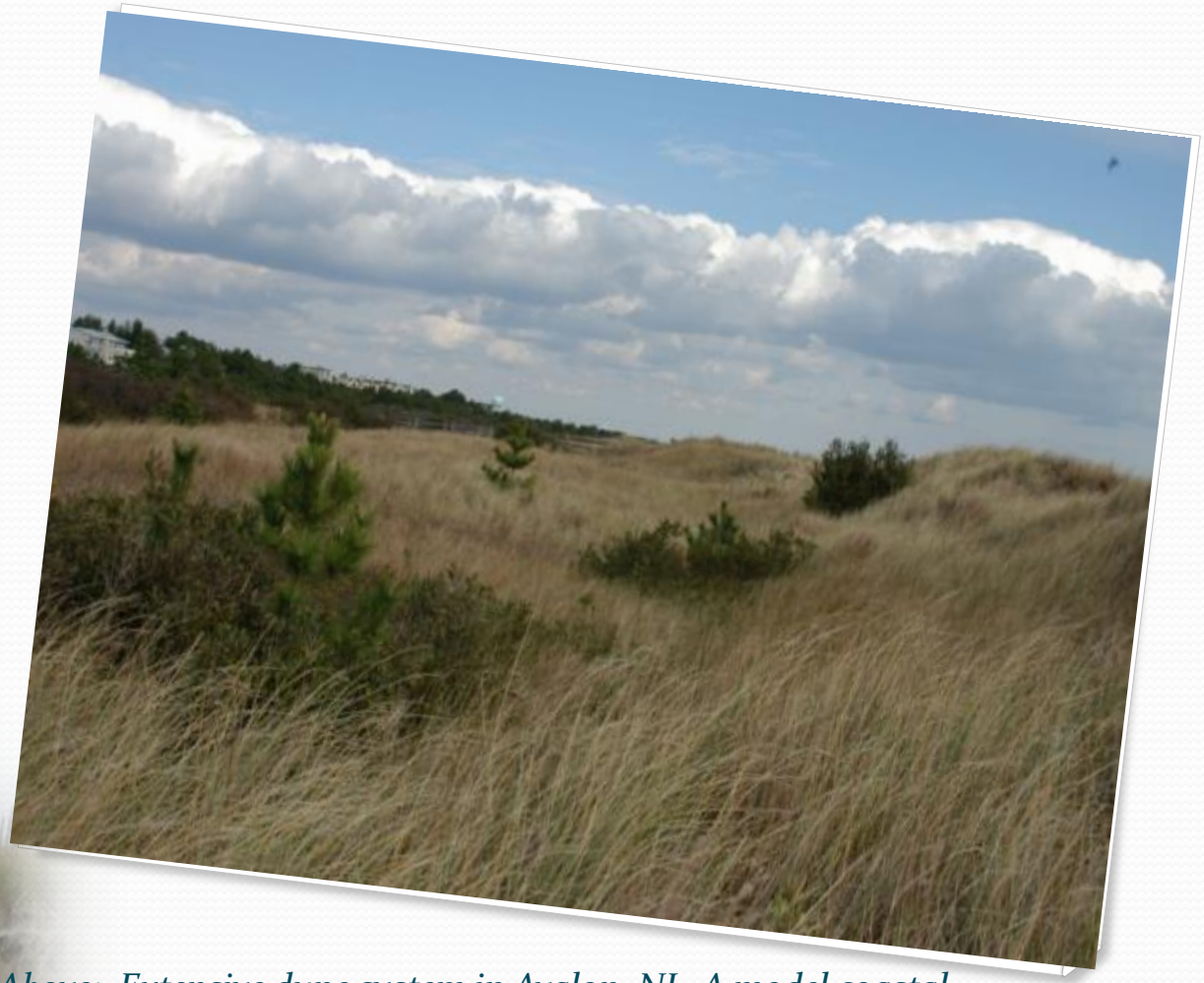
- ***New Jersey Department of Environmental Protection guidelines for building reconstruction.***
- NJDEP Rebuilding Guidelines

- ***Barnegat Bay Partnership***
- The Barnegat Bay Partnership (BBP) has been a key player in providing information to the home and business owners affected by Superstorm Sandy. The BBP has launched a special Hurricane Sandy Recovery page with information about the development of the storm, along with Federal, local, and environmental resources on recovery efforts and environmental impacts of Sandy. The BBP has also provided a video of Dr. Stan Hales, director of the Partnership, discussing the impacts of the storm while on a helicopter tour of the area. Watch this video here.
- Barnegat Bay Partnership Hurricane Sandy Recovery Page

- ***Ocean County Government and Local Municipalities***
- The Ocean County Government has updated its homepage to provide updates relevant to Ocean County residents rebuilding after the storm. This information, along with details provided by specific municipalities, is valuable for home and business owners seeking help during the recovery effort. Please visit these websites, as well as your local town hall offices for a more local approach to Sandy relief.
- Ocean County Government Homepage
- List of all Ocean County Municipality Webpages

American Beach Grass

Healthy dunes along New Jersey's coastal barrier islands provided the best defense against widespread storm damage from Sandy.



Above: Extensive dune system in Avalon, NJ. A model coastal community effort with the City of Avalon, Cape-Atlantic Soil Conservation District, and NRCS Plant Materials Center. Photo courtesy NJNRCS

Planting a Maritime Forest & Dunes

Freehold Soil Conservation District

Funding Resilient Landscape

NRCS Lending a Hand to the Land

– *Dune Grass Planting*

October 29 marks the one year anniversary of the largest and costliest coastal storm to affect New Jersey/NYC-Long Island since the March 1962 Nor'easter that prompted the creation of the Cape May PMC. Our activities advancing the plant sciences and availability of coastal plant materials are as relevant now as they were 50 years ago.

Coastal sand dunes are complex ecosystems which provide protection from storms as well as valuable wildlife habitat. Sand dunes are most effective when planted with a mixture of appropriate native species often referred to as “dune grasses” to capture sand and stabilize the dune.

submitted by Chris Miller, Cape May PMC Manager

Natural Resources Conservation Services staff in New Jersey recently spent the day helping to plant dune grass in Sea Bright, Monmouth County.

Farm Service Agency - Emergency Forest Restoration Program (EFRP)

- *The Emergency Forest Restoration Program (EFRP) helps the owners of non-industrial private forests restore forest health damaged by natural disasters. The EFRP does this by authorizing payments to owners of private forests to restore disaster damaged forests.*
- 3 District's (Warren, Morris, Mercer) that have NRCS-TSP approved foresters were engaged to provide field assessments for wind blown tree damage from Sandy under the FSA's Emergency Forest Restoration Program (EFRP) for forest landowners that signed up for cost share assistance.
- District foresters will provide needs assessments for the landowners, prepare practice plans and then inspect the obstruction removal and any installed practices by the landowners for restoration, (tree planting). The funding comes through the USDA-FSA to the US Forest Service and then to the Districts for the field assessments plan preparation and follow up inspections.
- **There are over 200 landowners enrolled in the program here in NJ.**

Emergency Watershed Protection Program (EWP)

The Emergency Watershed Protection Program (EWP) was set up by Congress to respond to emergencies created by natural disasters. It is designed to relieve imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences. All projects undertaken must be sponsored by a political subdivision of the State, such as a city, county, general improvement district, or conservation district. The USDA Natural Resources Conservation Service (NRCS) is responsible for administering the program.

NJ- NRCS Offers Funding

Emergency Watershed Program -Flood Plain Easements

submitted by Gail Bartok, Assistant State Conservationist for Programs

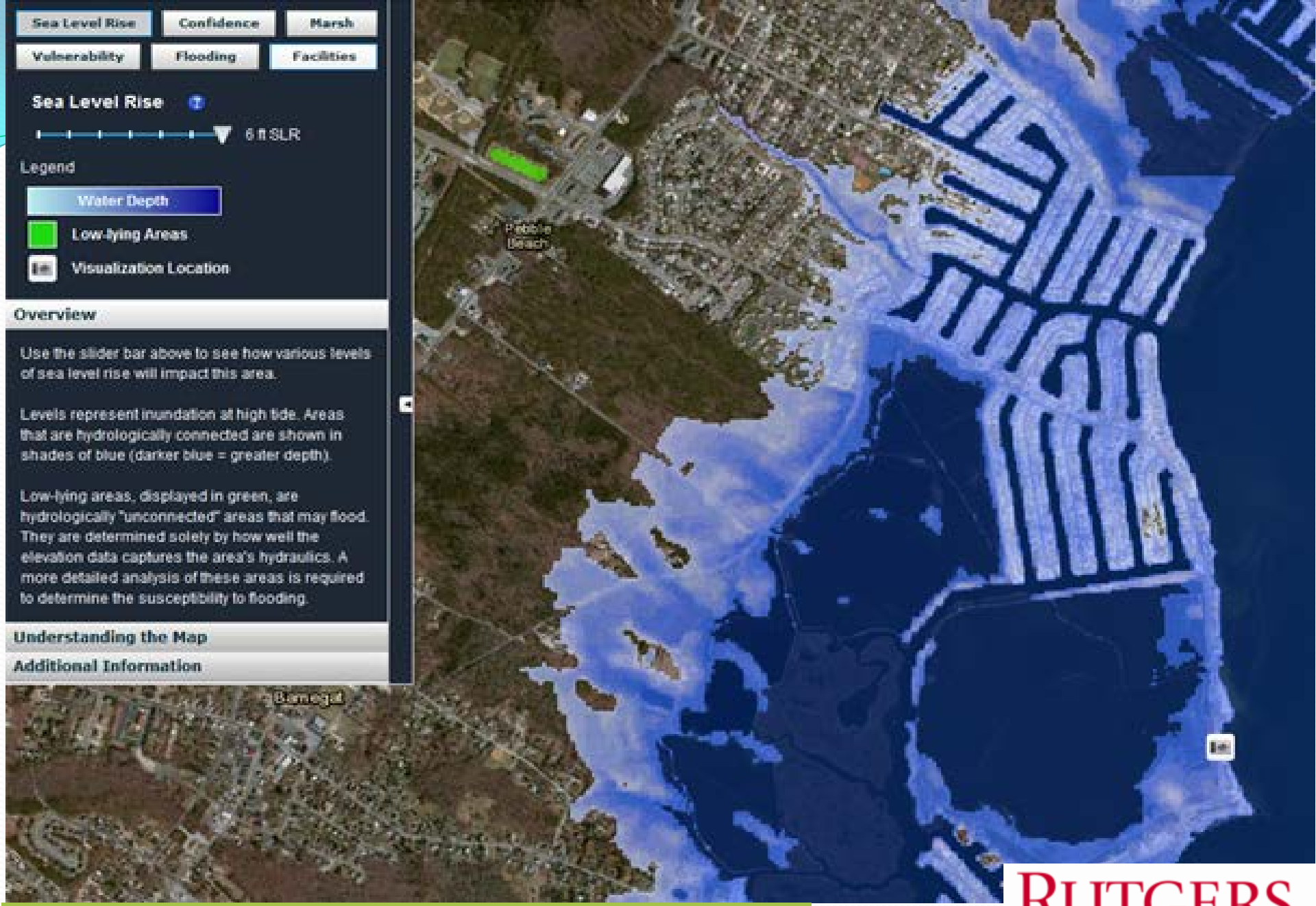
We received a total of 33 applications by the time sign up for the Floodplain Easement Program (EWP-FPE) designated for properties damaged by Hurricane Sandy closed on 9/2/2013. Of those 33, thirteen are eligible for assistance through the easement program.

Emergency Watershed Program

submitted by David Lamm, State Conservation Engineer

- Following Hurricane Sandy, over 45 requests for assistance through the Emergency Watershed Protection Program were received from communities damaged by the storm.

Stream cleaning work in the towns of Woodbridge (photo above)



www.njfloodmapper.org

RUTGERS
THE STATE UNIVERSITY OF NEW JERSEY

COASTAL COUNTY SNAPSHOTS
www.csc.noaa.gov/snapshots/

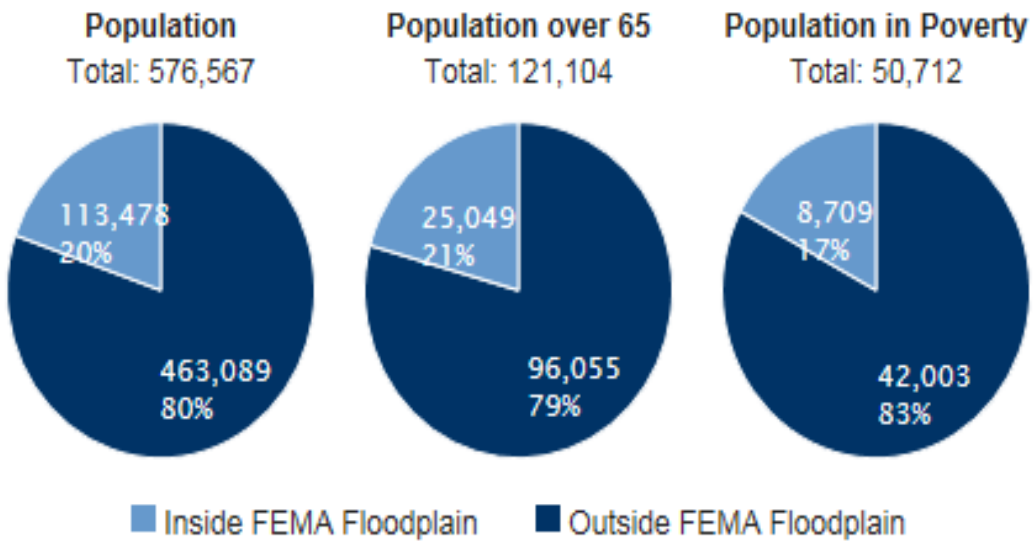
Flood Exposure Snapshot

Ocean County, New Jersey

People + Floodplains = Not Good
High-Risk Populations + Floodplains = Even Worse

The more homes and people located in a floodplain, the greater the potential for harm from flooding. Impacts are likely to be even greater when additional risk factors (age, income, capabilities) are involved, since people at greatest flood risk may have difficulty evacuating or taking action to reduce potential damage.

Based on 2010 U.S. Census records and 2006-2010 American Community Survey 5-year Summary File data.



New Jersey State League | Ocean County HMP

https://sites.google.com/site/oceancountyhmp/

Apps | gmail Email from G... | Suggested Sites | MSN.com | Web Slice Gallery | Imported From IE | Google

Ocean County HMP

Search this site

Navigation

- Welcome to the Ocean County 2013 Hazard Mitigation Plan Project Website
- About the Project
- What is Hazard Mitigation?
- Announcements
- Project Calendar
- Project Partners
- Project Documents
- Contact the Team
- Ocean County Online
- DRAFT Hazard Mitigation Plan

Hazard Mitigation Links

- FEMA Mitigation Home Page
- FEMA Mitigation Planning Home Page
- FEMA Mitigation Grants Home Page
- New Jersey Office of Emergency Management Home Page
- New Jersey Department of Environmental Protection Home Page

Welcome to the Ocean County 2013 Hazard Mitigation Plan Project Website

Photo by Steve Hardy

In the aftermath of Hurricane Sandy, the Hazard Mitigation Plan will help build a safer Ocean County, but we need your help! The Ocean County Hazard Mitigation Plan is available for stakeholder and public review from October 15 to November 15, 2013. Please browse to 'DRAFT Hazard Mitigation Plan' in the sidebar to download the plan and to submit comments using

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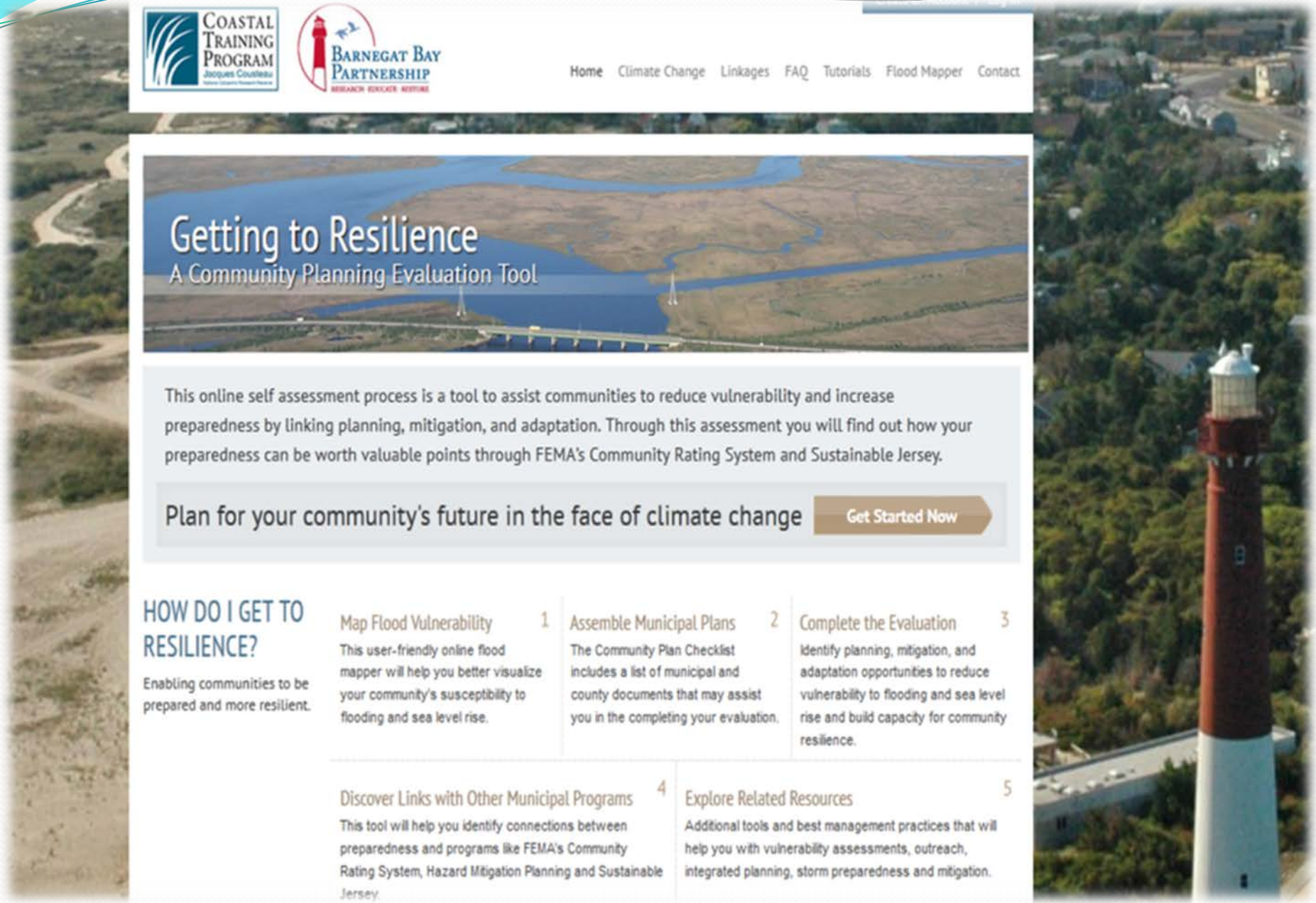
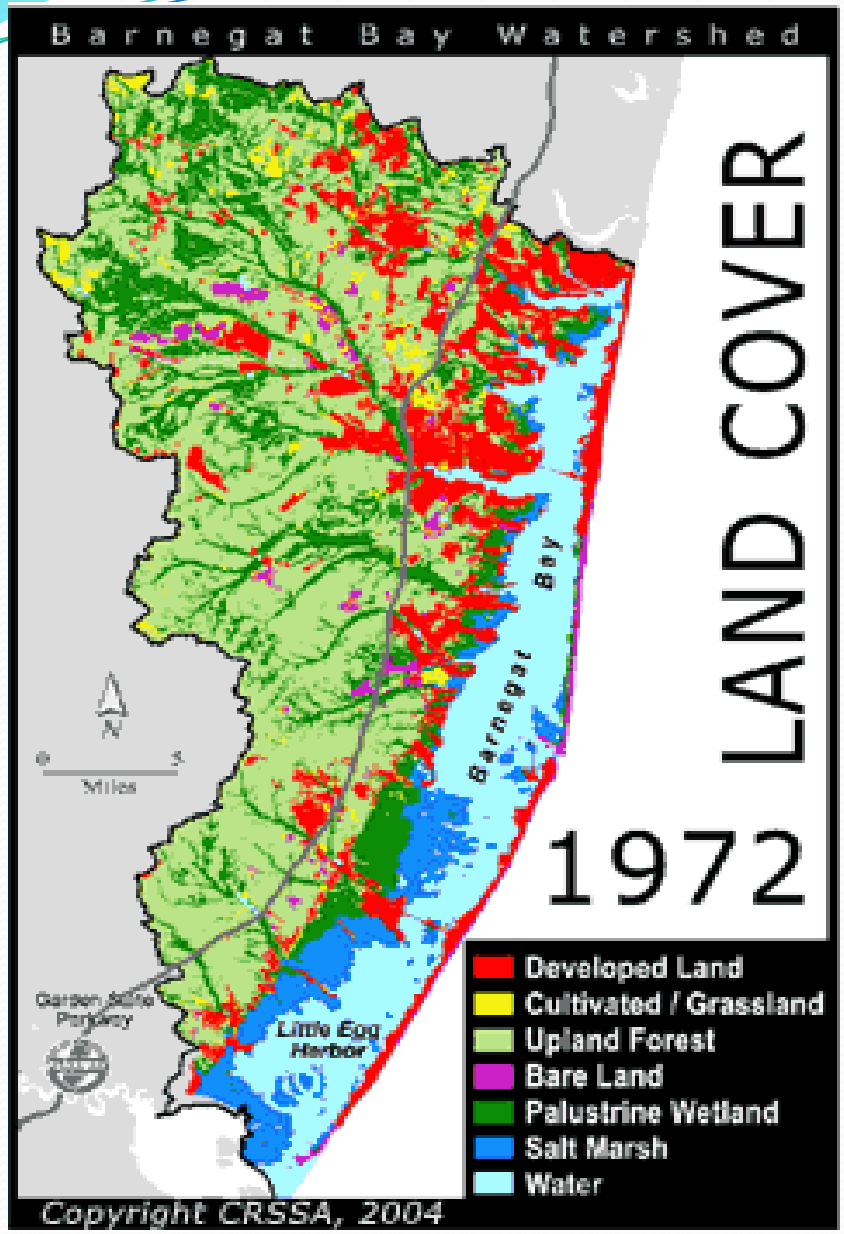
12:55 PM
11/11/2013


Coastal Training Program
Jacques Cousteau
Barnegat Bay Partnership
Home
Climate Change
Linkages
FAQ
Tutorials
Flood Mapper
Contact
Getting to Resilience
A Community Planning Evaluation Tool
This online self assessment process is a tool to assist communities to reduce vulnerability and increase preparedness by linking planning, mitigation, and adaptation. Through this assessment you will find out how your preparedness can be worth valuable points through FEMA's Community Rating System and Sustainable Jersey.
Plan for your community's future in the face of climate change
Get Started Now
HOW DO I GET TO RESILIENCE?
Enabling communities to be prepared and more resilient.
Map Flood Vulnerability 1
This user-friendly online flood mapper will help you better visualize your community's susceptibility to flooding and sea level rise.
Assemble Municipal Plans 2
The Community Plan Checklist includes a list of municipal and county documents that may assist you in the completing your evaluation.
Complete the Evaluation 3
Identify planning, mitigation, and adaptation opportunities to reduce vulnerability to flooding and sea level rise and build capacity for community resilience.
Discover Links with Other Municipal Programs 4
This tool will help you identify connections between preparedness and programs like FEMA's Community Rating System, Hazard Mitigation Planning and Sustainable Jersey
Explore Related Resources 5
Additional tools and best management practices that will help you with vulnerability assessments, outreach, integrated planning, storm preparedness and mitigation.



Impervious/Developed Land – Has put us in the "red" for flood control!

- **Fastest Growing County in New Jersey**
- **Fulltime Population: 579,379 (1/2013) (Populations doubles to 1 million + in summer months)**
- **71% of Barnegat Bay's shorelines are developed or altered**
- **8% loss of tidal wetlands 1995-2007**

Integrating Timely Topics

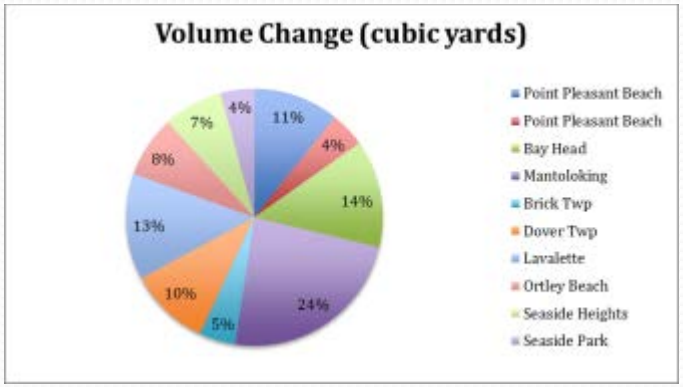
Ocean County Soil Conservation District hosts an Annual Barnegat Bay Environmental Educators Roundtable (2013 -16th Year) – that focuses on various watershed topics to assist teachers with classroom integration. A series of workshops and presentations attended by 100+ educators.

Theme: Integrate sustainability, resiliency and storm preparedness topics into our teacher training activities so that New Jersey's educators can pass along these important messages to their students.

UNDERSTANDING SEA LEVEL RISE: HOW WILL IT AFFECT NEW JERSEY'S SHORELINES?
New Jersey Sea Grant Consortium

LESSONS FROM A STORM - The effects of Sandy and how to incorporate storm-related lessons into the classroom
Marine Academy of Science and Technology

Math Lesson – Volume of Sand Lost



Behavior Change comes more from Education than from Regulation –

Our Children = Our Future

Soil Conservation Districts EVERYWHERE have a critical role in providing locally important connections to natural resources.

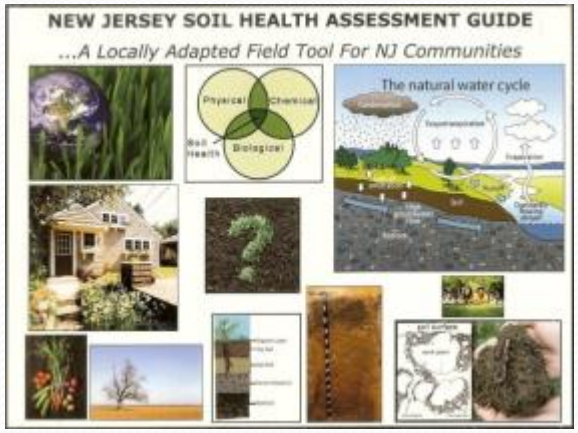
Natural disasters provide countless opportunities for education. Awareness and knowledge helps make sensible choices and decisions.

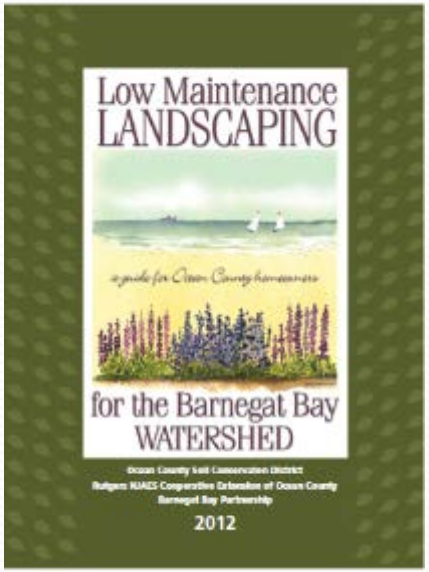
As part of the Trout in the Classroom program, staff demonstrate the role of healthy soil in providing healthy habitat for trout and controlling stormwater runoff quality and quantity.

Soil Health is at the ROOT of everything!

Promoting Soil Health as Foundation for Building Resiliency

Publications and Outreach





unlock the SECRETS IN THE SOIL

Lessons Learned:

- 1. Conservation Districts are Connected Locally –
  - *Stay Connected*
- 2. Preparing for natural disasters is a PROCESS-
  - *Be PART of the Process*
- 3. Respond to Local Needs as Appropriate –
  - *Conservation District staff are part of the Local Communities that they serve*
- *4.* Having all the answers is not possible –
  - *HELPING people find the answers is possible.*

5. Connecting to others – state, regional, national level –

Learning from Others and Leading Locally

Recovery is a Process. . .

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