

New Haven, Connecticut Regulates to Protect Vulnerable Areas

Project Summary

New Haven has implemented regulations and ordinances to protect specific areas most vulnerable to the city. The city has also increased its drainage system maintenance to decrease inland flooding.

Project Background

New Haven sits at the southern part of New Haven County and on the coastline facing Connecticut's Long Island sound. The city is protected by four miles of harbor, and the Quinnipiac River runs through the city along with the West and Mill Rivers. New Haven is approximately 18.9 square miles in size and with over 70% of land space used as both public and private property.

New Haven's governmental structure is a Mayor-Council form of government. The city departments play a role in implementing the Hazard Mitigation plan, including the: New Haven office of Energy Management; Chief Administrator's office; City Plan Department; Engineering Department/Public Works; and Department of Parks, Recreations, and Trees. The Chief Administrator's Office coordinates the interdepartmental activities of the City's agencies. The City Plan department facilitates the physical development of the city, and is directly involved in the hazard mitigation through implementation of appropriate zoning and planning.

New Haven is exposed to coastal storms with hurricane intensity in the late summer and autumn. The city also experiences inland flooding after heavy rainfall and storms. In some areas of the city, flooding occurs with more frequency where there is insufficient drainage and where tidal influences exacerbate the drainage problems.

In 2011, New Haven revised its Natural Hazard Mitigation Plan (Plan), reassessing the vulnerabilities of the municipality and naming recommendations for changes for the town to make. The Plan will be updated every five years in accordance with the federal regulations in order to gain access to grant money.

Project Implementation

New Haven has recognized that the Plan is a great tool to connect town departments, non-governmental actors, and constituents for planning and issue spotting related to hazards. The Plan is also essential to qualify for funding from any federal grants. Town planners in New Haven also recognize that zoning can be a useful tool for hazard planning, however it is a long term instrument and there are other immediate actions that need to be taken for New Haven to adapt to the current climate changes. Recently, New Haven was impacted by Hurricane Irene; this demonstrated that sea walls and other naturalized measures that were implemented in the town could not withstand the force of a severe storm. Alternative measures are being examined to deal with the extensive rivers and estuaries the town has, which contribute to coastal and inland flooding.

One of the main concerns for New Haven is the storm water and drainage system. The general theme of city action is to clear and rework debris and storm water surge to ensure that the duck valves work properly and sewers are not blocked. The city has revamped maintenance of its 11,000 catch basins by hiring two contractors that routinely clean and maintain the basins.

Additionally, New Haven has taken further steps to reduce flooding at the Tweed-New Haven Airport. Flooding was not just a problem in the city's streets, but storm water was also creating a problem at the airport. The airport sits on wetlands, and Morris Creek flows through the west side of the airport. Because of the geography of that area, Morris Creek and the wetlands often flooded parts of the airport runways. The city of New Haven came up with a plan to restore wetlands for flood retention and to redirect the storm water upstream to drain in Morris Cove. The city put in receiving chambers with duckbill flat valves, and installed tide gates for pumping rainwater into Morris Creek near the Morris Causeway. Moreover, the Morris Creek Tide Gates is electronically controlled to allow tidal up to 3.7 feet in elevation. This helps to reduce flooding, which is monitored by the airport, and eliminates the presence of phragmites which contributes to back up causing flooding. In order to fund this project the city used multiple funds including money from the city, federal grants, and Clean Water Funds.

New Haven has also concentrated on improving the flow of its many rivers, creeks, and estuaries. For example, the Hemingway Creek has been dredged to improve flow. Moreover, the city has adopted a vacant portion of Quinnipiac Meadows as part of a conservation effort through the New Haven Land Trust. Furthermore, the city has adopted a reverse 911 system to notify residents in affected areas about emergencies via telephone.

Project Outcome/Conclusions

The city has puts together its detailed Natural Hazard Mitigation Plan every five years since 2005, which allows officials to update the city's current concerns, determine what actions are working, and create open communication among the various departments involved. Its plan also outlines projects that it wishes to begin, and the cost of each project. This enables the town to efficiently apply its grant money or other funds to high priority projects, and improve the structures already in place in the city. New Haven is unique in the number of bodies of water that runs through it, which increases the probability of a flood. The city continues to put together feasibility studies and look for funding to help the city adapt to the climate changes affecting their residents.

New Haven has been able to learn what does not work, such as naturalized measures and sea walls, improve on its maintenance, and tackle flooding problems directly, through redirecting storm water, restoring wetlands, cleaning out drainage structures, and reallocating vacant land for conservation purposes.

Part of the Northeast Climate Change Adaptation Project

*In 2011, the [Northeast Regional Ocean Council](#) (NROC) and the [Gulf of Maine Council on the Marine Environment](#) (GOMC) received funding from the [National Oceanic and Atmospheric Administration's](#) (NOAA's) [Climate and Societal Interactions Program](#) (CSI) to examine innovative municipal approaches to climate change adaptation in the coastal zone of the Northeast and Bay of Fundy. The two-year project, *Stimulate Innovation and Increase the Pace of Municipal Responses to a Changing Climate in the Coastal Zone of the Northeast and Bay of Fundy*, was completed in June, 2013. The research and outreach for the project was conducted by the following partners: the [Marine Affairs Institute](#), a partnership of [Roger Williams University School of Law](#), [Rhode Island Sea Grant Legal Program](#), and [University of Rhode Island](#); [Blue Urchin](#); [StormSmart Coasts Network](#); and [Clean Air-Cool Planet](#).*

Read more about the Northeast Climate Change Adaptation Project on our website:
<http://necca.stormsmart.org/>