

Tuesday August 26, 2014 the 4<sup>th</sup> Workshop in the “Preparing for Climate Change in Rye” series was held at the Rye Junior High School. In attendance were approximately 20 Rye residents as well as project coordinators.

This series of workshops is designed to 1) present the most current science regarding climate change (temperatures, storm characteristics, precipitation, sea level rise) with focus on potential effects in Rye, 2) engage citizens in conversation about what we see as vulnerabilities in Rye, and 3) educate on the tools, enabling legislation, and other communities’ efforts that may assist Rye. The goal is to increase, through gradual adaptation, Rye’s resilience to the effects of climate change.

The workshop project is led by a steering committee of Rye community members including: Bill Epperson, Phil Winslow, Sam Winebaum, Victor Azzi, Danna Truslow, Kevin Walsh, and Kim Reed. This project is funded by a grant from the National Oceanic and Atmospheric Administration to the New Hampshire Coastal Program, and managed by staff from the University of New Hampshire Cooperative Extension, NH Sea Grant, Rockingham Planning Commission, and the NH Coastal Adaptation Workgroup.

### **New Hampshire’s Climate: Past and Future Changes**

According to a 2011 UNH research report the rate of change has increased over the last 4 decades with NH getting wetter and warmer.

#### **Temperatures**

Since 1970:

- NH seasonal temps have warmed 2<sup>o</sup>F.

Expect:

- Warmer Winters: 25-50 days fewer days per year below 32<sup>o</sup>F.
- Hotter Summers: 30-70 days per year above 90<sup>o</sup>F - compared to about 10 days 1970-1999.

#### **Sea-Level Rise**

Since 1926

- sea-level in Portsmouth has risen 6 inches.

By 2100, Expect

- additional 2-6 foot rise.

#### **Precipitation**

Since 1970:

- Annual precipitation has increased 5-20%.

Expect:

- Less snow more rain.

- 12-17% more precipitation .
- More extreme precipitation events.

**Workshop 1** presented the latest science and engaged citizens in group discussions around the following question: “Given the trends in increased frequency of storms, coastal flooding, and sea level rise, how might these impacts affect people, infrastructure, or natural resources in Rye?”

From this question and discussions, the following issues were identified and polled to the group: Freshwater Resources, Impacts to Salt Marshes, Roads, Public Health, Sea Walls, and Storm Water Management were identified in descending order as the top citizen issues followed Beach Erosion, Economic Loss, Nuclear Plant risks, Cell Phone Coverage, and Food Supply.

**Workshop 2** introduced us to the tools available to evaluate risks and adapt over time. These include mapping tools, enabling legislation, model zoning, and examples from other communities regionally and nationwide.

**Workshop 3** was held at the Seacoast Science Center and on the adjacent marsh to discuss the vital importance of salt marshes as a buffer and as ecosystems.

**Workshop 4** on Wednesday, August 27 focused on “Next Steps” primarily a FEMA grant funded program entitled “From **Tides to Storms: Preparing for NH’s Future Coast.**”

Tides to Storms will conduct a Coastal Vulnerability Assessment of the entire NH coast, mapping all infrastructure (utility, town, state, and federal) in the fall of 2014 and then apply various sea level rise and storm and surge scenarios to assess vulnerability of man made and natural systems. The study will show areas that can in the future absorb water (marshes and their borders) and the potential costs of damage to infrastructure, and public and private (see below) property. The end result, according to the vulnerability assessment project literature, is information that is intended to assist towns to:

- Enhance preparedness and raise community awareness of flood risks.
- Identify cost effective measures to protect and adapt to changing conditions.
- Improve resilience of infrastructure, building, and investments.
- Protect life, property and local economies.
- Protect services of natural systems.
- Preserve unique community character.

Tides to Storms will in the fall of 2014 and 2015 and will focus on assisting each town using the data generated with updating with a Climate Change chapter for each town’s “Hazard Mitigation Plan”, a FEMA requirement for a town to qualify flood insurance. Ideally a chapter on Climate Change should also be included in the town’s Master Plan. The longer term goal is to use the data to begin to adapt current infrastructure through future investment, zoning and building codes, and other

regulatory and legislative initiatives in ways that consider the impacts of Climate Change over time.

Simultaneously the State's NH Coastal Risks and Hazards Commission, with representation from every coastal town including Rye is working using many of the same resources (data and people) to deliver recommendations by Dec 2016 which may include legislation (enabling and/or otherwise), regulations, permitting, voluntary programs, funding, and research from the state level.

Hampton and Seabrook will link their assessors' data directly to the map to be able to evaluate potential private property loss. Portsmouth has already conducted such a study. It was unclear if Rye will be able to provide this kind of data. Amounts of \$5,000-\$20,000 were mentioned as the cost to link assessment data and tax map lots to the kind of mapping (2' contour) used for Tides to Storms. Note: The September 2014 Town Newsletter Assessor's article (page 7) mentions aligning assessment data for the Town's new GIS (Geographic information system) mapping project by October or November.

As Tides to Storms will not directly look at Public Health or Business continuity, experts presented information on these topics at Workshop 4.

Sherry Godlewski of the NH Department of Environmental Services presented some of the emerging public health considerations of Climate Change:

- Planning to prevent the over topping of water sources/pumping stations/treatment plants by storm water, which happened last year in Somersworth.
- Observed increase in ragweed pollen seasons due to warmer temperatures, already 10-23 days longer the Midwest. New England data is being gathered.
- Observed increase in Poison Ivy and its toxicity.
- Increases in the prevalence of insect born disease Lyme, West Nile, etc. NH leads the nation in increases for these diseases.
- Planning for electric outages for those requiring medical equipment.

Roger Stephenson a specialist in reaching out to business to plan for continuity emphasized that in his experience, and based on NH prevalence of small businesses, long range future planning for continuity is not a business priority. Yet even a one week interruption in business, due to any issue, can put these businesses in financial peril. The most effective outreach is not seminars or even free online tools such as the Red Cross Ready tools, but the testimony of fellow business owners who have been through such events, for example businesses that went through Hurricane Sandy.

## **Resources**

A Rye Steering Committee was formed and a page at the Town's web site includes project materials as well as other resources:

[http://www.town.rye.nh.us/Pages/RyeNH\\_BComm/prepare/index](http://www.town.rye.nh.us/Pages/RyeNH_BComm/prepare/index)

The NH Coastal Adaptation Workgroup <http://nhblog.stormsmart.org/> is a collaboration of 19 organizations “working to help communities in New Hampshire’s Seacoast area prepare for the effects of extreme weather events and other effects of long term climate change. NHCAW provides communities with resources, education, facilitation and guidance.” It has workshop materials from all the towns as well as other resources.