

Master Plan Advisory Committee
Climate Change Resiliency and Sustainability Working (CCRS) Group
Terms of Reference

Introduction

Climate change is introducing threats that may have adverse impacts on Pepperell's infrastructure, public safety and health, local businesses and natural habitats. Projected increases in annual temperatures and precipitation may lead to increased frequency of severe storm activity, increased frequency of drought and shifts in seasonal hydrological patterns. These climate stressors may, in turn, induce a range of hazards including increased flooding, increased frequency of heat-related emergencies, increased prevalence of chronic diseases, increased incidence of vector borne diseases, reduced water recharge and lower oxygen levels in our cold-water streams and rivers. Pepperell's residents, businesses, infrastructure and natural habitats will have varying degrees of vulnerability to these climate change related hazards. It is in our collective interest to study these issues and develop approaches to ensure the Town's resiliency.

Purpose and Scope

The CCRS Working Group will:

- Assess direct climate change-related threats, hazards, vulnerabilities and impacts to Pepperell's assets (the "Impact Assessment") within the context of the Master Plan elements
- Assess potential indirect hazards to which the community might be vulnerable (e.g. degradation of water quality in the Nashua River Watershed)
- Make recommendations to enhance the Town's resiliency to climate change and the sustainability of the Town's assets.

Members

The CCRS Working Group will be comprised of members of the Master Plan Committee

Deliverables

In conjunction with the climate change Impact Assessment, the CCRS Working Group will provide Recommendations to enhance the Town's resiliency to climate change, as well as the sustainability of the Town's assets, for potential inclusion in the Town's Master Plan.

Process

To complete the Impact Assessment and Recommendations the CCRS Working Group's will conduct the following activities:

- Research and Issue identification
- Data collection and Analysis
- Deliberation and Recommendation

Throughout the above process the CCRS Working Group will seek input and feedback from subject matter experts and interested stakeholders

Definitions

For the purpose of conducting the Impact Assessment our evaluation of climate change will include the following components to the extent they can be determined within the confines of the MPC process.

- *Assets* - People, resources, ecosystems, infrastructure, and the services they provide.
- *Threats* - A condition, event, or trend related to climate variability and change that can exacerbate hazards. Also known as *Climate Stressors*.
- *Hazards* - An event or condition that may cause injury, illness, or death to people or cause adverse changes or damage to assets.
- *Vulnerabilities* - The propensity or predisposition of assets to be adversely affected by hazards.
- *Impacts* - Effects on natural and human systems that result from hazards.
- *Consequences* - A subsequent result (usually negative) that follows from damage to or loss of an asset.

Preliminary Scope Assessment

The CCRS Working Group has reviewed potential climate change related threats and hazards to Pepperell’s assets and identified relevant Master Plan elements in which recommendations that affect policy, practices and/or by-laws may be necessary.

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Assessment:

Threat/Stressor	Hazards	Assets Affected	Relevant MP Element
Winter and summer temperature rise - General	<ul style="list-style-type: none"> • Health hazards: <ul style="list-style-type: none"> ○ Increase in vector borne disease ○ Decrease in air quality • Drought • Wildfires • Power outage 	<ul style="list-style-type: none"> • Drinking water aquifers • Natural Resources/Conservation lands/Rivers and Streams/BioMap2 habitats • Agricultural land sources • Power grid <p>TOP Departments:</p> <ul style="list-style-type: none"> • Police • Fire • Public Works • Health • Conservation • Council on aging • Housing authority • Planning board 	<ul style="list-style-type: none"> • Land use • Open Space & Recreation • Facilities and Services • Economic development • Housing • Natural & Cultural Resources
Increase in frequency and severity of heat waves	<ul style="list-style-type: none"> • Health hazards: <ul style="list-style-type: none"> ○ Heat exhaustion/stroke risks ○ Cardiopulmonary risks • Drought • Wildfires • Power outage 	<ul style="list-style-type: none"> • Drinking water aquifers • Natural Resources/Conservation lands/Rivers and streams/BioMap2 habitats • Agricultural land/food sources • Power grid <p>TOP Departments:</p> <ul style="list-style-type: none"> • Police • Fire • Public Works • Health • Conservation • Council on aging • Housing authority • Planning board 	<ul style="list-style-type: none"> • Land use • Open Space & Recreation • Facilities and Services • Housing • Natural & Cultural Resources
Increase in frequency and severity of extreme precipitation events	<ul style="list-style-type: none"> • Severe thunderstorms • Hurricanes • Tornadoes • Severe snow/ice storms • Power outage • Floods • Storm-water runoff to aquifers, rivers and streams • Erosion 	<ul style="list-style-type: none"> • Drinking water aquifers • Conservation lands/Rivers and streams/BioMap2 habitats • Agricultural land • Roads/bridges/culverts/dams • Waterbodies <p>TOP Departments:</p> <ul style="list-style-type: none"> • Emergency Management • Police • Fire • Public Works • Health • Conservation • Council on aging • Housing authority • Planning board 	<ul style="list-style-type: none"> • Land use • Open Space & Recreation • Facilities and Services • Zoning • Housing • Natural & Cultural Resources • Traffic and circulation