

**Newburyport Resiliency Committee (NRC) Meeting Notes**  
**3 PM September 21, 2022 Virtual Meeting**

**NRC Mission Statement**

The Newburyport Resiliency Committee will analyze, coordinate, and develop a plan in conjunction with regional planning efforts to increase community resilience related to sea level rise, storm surge, flooding and extreme weather events throughout the city. Further, the committee will advocate for and oversee implementation of the plan's recommendations.

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NRC Attendees: Julia Godtfredsen, Andrew Port, Jane Healey (chair), Joe Teixeira, Brett Lefabvre (co-chair), Jon-Eric White, Molly Ettenborough, , Connie Preston, Barry Connell, Sarah Tappan (note taker)

Absent: Samantha Burke

Other Attendees: Deanna Moran, Lela Wright, Rick Taintor, Thomas Starr, Bonnie Sontag, Kim Turner, Mark Wright

**Key Accomplishments: September**

- Resiliency Brochure proof was printed and reviewed.
- Funding was secured for the story map software license hosted by MVPC.
- Committee norms and best practices were reviewed and re-approved.

**AGENDA**

**Speaker: Deanna Moran, Conservation Law Foundation**

*Climate Resilience in Massachusetts*

*Operationalizing Resilience Planning*

Deanna is Vice President for Healthy & Resilient Communities at Conservation Law Foundation. She currently oversees CLF's impact investing, research and partnerships, farm & food work, and climate resilience advocacy. Prior to her current role, Deanna was Director of Environmental Planning at CLF and was responsible for managing the organization's climate resilience portfolio. Before joining CLF in 2016, Deanna worked for a community development financial institution in New Jersey where she assisted local governments and other stakeholders on neighborhood revitalization strategies including the reclamation of vacant and abandoned properties.

She holds a Master's degree in City and Regional Planning and a Master's degree in Public Policy from Rutgers University and a B.A. in Environmental Design from the University at Buffalo. She will receive a J.D. from Suffolk University School of Law in January 2023. She is AICP certified.

A link to Deanna's slides and supporting materials is attached to the end of this document.

Deanna was invited to speak about insights on operationalizing municipal resiliency plans and also touch on common barriers such as zoning and building codes.

A lot of time is spent planning for climate change but it is moving into implementation that is key and that is the point that a lot of cities and towns are at right now. Goal of this presentation is to share information on what other cities and towns are doing and what their barriers and challenges are.

Deanna first shared a pointer to an open source data set from the First Street Foundation, Flood Factor data maps. First Street foundation provides a nationwide, free, climate projection data around flood risk and Sea Level Rise (SLR). 3 meter downscale resolution. Encourages us to review. First Street Foundation data is not based on FEMA flood maps, instead includes properties. Allows them to break down risk by property type (residential, commercial, roads, infrastructure etc). Also allows individuals to plug in their address.

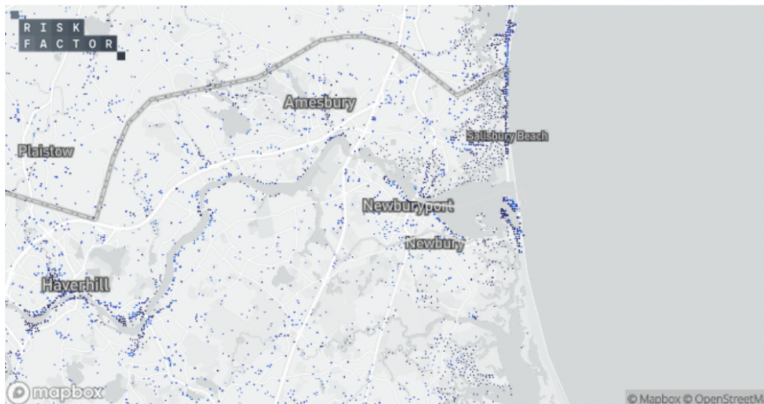
## FLOOD RISK OVERVIEW

# Does Newburyport have risk?

**Major**



There are **886** properties in **Newburyport** that have greater than a **26%** chance of being severely affected by flooding over the next 30 years. This represents **18%** of all properties in Newburyport.



### Newburyport Flood Risk

Residential **Moderate Risk**

759 out of 5,100 homes ⓘ

Road **Major Risk**

26 out of 115 miles of roads ⓘ

Commercial **Severe Risk**

97 out of 363 commercial properties ⓘ

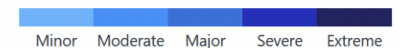
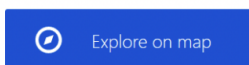
Critical Infrastructure **Major Risk**

13 out of 18 infrastructure facilities ⓘ

Social Facilities **Minor Risk**

4 out of 28 social facilities ⓘ

View additional community impacts with Risk Factor Pro™.



Data source: [First Street Foundation, Flood Factor](#)

Deanna referenced two resources which are linked at the end of these minutes.

CLF developed a Climate Adaptation and Liability report which focuses on liability considerations for design professionals and a section on government liability. Addresses questions of how not to go too far and risk liability. One gray area mentioned is road abandonment. Report includes tips, such as when writing the purpose section for climate adaptation regulations, it is important to focus on the public health and safety impact of the regulations.

The second resource Deanna referenced written by CLF addresses Mass Building code changes for climate change. Mass defines building codes at the state level, local municipalities are not allowed to have their own building codes. This has raised some conflict with municipalities that want to go further than the state defined codes. Report discusses how to stay within the requirements of the state codes and still make progress at the local level. The building code

limits are an obstacle and organizations like CLF are lobbying for changes but that is a slow process.

**Case Study examples.** (Some cities and towns are making policy changes to better protect against flood risk without specifically referencing SLR or climate change)

**Flood Overlay Districts:** Boston's is the gold standard. It explicitly calls out climate change and SLR. It actively incorporated forward looking data and has concrete guidelines and mean definitions/standards. Establishes SLR design flood elevation (DFE) as FEMA Base Flood Elevation (BFE) + 40 inches (projected as likely scenario for 2070). Also requires development in this overlay district to add an additional foot of freeboard height in all zones above the state building code (which determines the level that the structure's first floor must be elevated or floodproofed). They are allowed to go beyond the state's building code because this is an overlay district and development requires a special permit. No one has tried to challenge the overlay district/special permit policy in court.

Boston also has developed a separate set of guidelines tied to the overlay district: providing design guides for different building types to developers. They also prohibit certain uses in the overlay district. Defining land use in a particular area is clearly within the municipality's control. Prohibits any below SLR elevation any access or vertical circulation things like lobbies, stairs, can not have flood protection equipment, storage or residential parking.

Swampscott: Includes a definition for SLR and estimates for SLR from 2020 to 2100. It requires subdivision permits to consider SLR. Any new construction or substantial improvements in the overlay district has to consider SLR and storm surge. Similar to Boston requires an additional foot of freeboard height.

Lynnfield - Includes FEMA special flood hazard zones, but it does not allow enlargement of expansion of dwellings in those zones and prohibits development of new dwellings in those zones.

The biggest challenge with state building code is that it only allows flood resistant construction requirements in FEMA special flood hazard zones. Cities and towns are struggling with this and that is the rationale for these overlay districts. Municipalities are lobbying for the State to give cities and towns the right to substitute predicted or observed flood data for the FEMA zones.

Braintree - Flood overlay district goes beyond the FEMA A and E flood hazard zones and incorporates the 500 year flood X zone on the FEMA maps. Braintree can't require this for their overlay district as it would be pre-emptive but they do incorporate it for land-use purposes. They don't allow siting of critical facilities in their overlay district, which includes the 500 year floodplain.

**Special permit Requirements:** - Provides a workaround for the state building code limits by requiring development in certain areas to require a special permit. There are a couple municipalities that mandate that all development in certain areas requires a special permit. Quincy, Salem, Marlboro all use similar language. Salem goes a little further, requiring that all utilities be protected against breakage, leakage, short-circuits, grounding or igniting due to flooding. Marlboro prohibits uses that would be flammable, explosive, toxic, on-site sewage disposal (including septic)

**Site Plan Review:** Hull uses this, but Deanna is not sure how effective it is. It says in approving site plans, the planning board is empowered to consider specific design guidelines which include protection against flood damage on site and to adjacent properties. Must take into consideration future SLR conditions. Planning board must pay attention to the natural capacity of the land to protect against flooding. This is helpful to be clear about what the planning board must take into consideration when approving plans. If there was a challenge, they have the documentation on what their decision was based on.

**Zoning Release and Incentives:** This is the opposite approach, instead of mandating standards in design construction, this is the incentive approach. Hull allows new and existing structures to exceed existing height limits by special permit in exchange for incorporating up to 6 feet of freeboard. This allows homeowners to be proactive in elevating their houses without losing the height occupied by freeboard. Also offer a rebate of \$500 off the cost of a building permit for participating in the freeboard program.

Dennis also allows exceeding the height requirements for up to 3 feet of freeboard. They specifically measure building height from the BFE rather than the average mean grade.

Scituate allows existing structures to increase their maximum height by up to 50 feet but can not add additional bedrooms or increase floor area, so the purpose of increasing the height must be to address flood risk, not to increase the living area.

Saugus adopted a waterfront mixed use overlay district, designed to encourage development resistant to flooding and SLR. Anyone who wants to opt into the overlay district is required to incorporate 1-3 Feet of freeboard above FEMA BFE and also to review guidance on resilience and incorporate to the best of their ability. The overlay district includes additional usage beyond what is allowed by the zoning outside the overlay district.

**Local Wetlands and wetland bylaw ordinances** - Lots of ways to incorporate climate resilience into existing wetland bylaw ordinances. Boston recently incorporated climate change definitions. Modified definition of "alter" that includes modifying wetlands ability to react to climate change. Bylaws has a new resource areas that include land within 100 feet of a salt marsh and coastal and inland flood resilience zones. Flood resilience zones have not yet been defined. The Commission is still defining these zones, but they are intended to be forward looking to include 2070-2100. Arlington was the first community to include climate impact in a wetland bylaw. They include definitions for climate change, adaptation, and resilience. Must consider climate change impacts on wetlands. Use compensatory storage as climate resilience storage. Require a 2-1 ratio, for replacing the capacity of flood storage.

**Design Standards and Guidelines** - Typically provided as a resource, not a mandate. But can be helpful as part of an overlay district to provide resources for developers, best practice strategies, cost benefit analysis. Boston has a good set of best practices for different building types. Somerville goes beyond advisory. Established a land use requirement called a Green Score. When applying for a building permit, have a range of a Green Score that you have to reach depending on your building type. Score is calculated based on elements that could be incorporated into the site including strategies for stormwater management, native plants, heat

island effect, air quality. Different combinations of strategies can be combined to create the score. Gives flexibility based on the constraints of the site.

All of these examples are captured in a resource called climate resilient land use strategies <https://www.mapc.org/resource-library/climate-resilient-land-use-strategies/>. Deanna highly recommends this resource. It includes links to the actual municipal codes.

Deanna also touched on what is happening at the state level. The state has not made a lot of progress on updating the building code. Cities and towns have to take the lead over the next few years.

Bills that were circulating last year or expected this session; a couple bills focused on - establishing new revenue streams for climate resilience funding. There is a bill targeting deeds excise tax with surcharge to pay for CZM, MVP planning and action grants. Couple of proposals to add a surcharge to property and casualty insurance.

CLF is sponsoring bills related to climate Resilient building codes and Electric Utilities resiliency planning. They are pushing for more regulatory oversight on electrical utilities. Municipalities find it difficult to get information from utilities on climate risks and their plans to address them. Utilities are not doing a lot beyond vegetation management. Pushing for more standards and requirements at DPU, especially when they are increasing rates. There currently is not a lot of Resiliency improvements addressed in the increasing rates. Electric Utilities also come into DPU for storm cost recovery and pass those costs on to ratepayers. No requirement for them to proactively plan for climate change. CLF is advocating for this.

There is also a bill proposed by the Trustees of the Reservations, to Stream-line the FEMA Flood Risk Protection program. This would streamline the homeowner buyout process.

Lots of changes at the Federal level to the National Flood insurance program. Changes to make premiums reflect actuary risk. Most impacted policies will be those properties with repeat damage and loss. Lots of controversy around this. Eventually will influence land use planning decisions.

#### **Questions:**

Julia - Asked for clarification on wetland bylaws and ordinances. Newburyport has a local wetland ordinance and recently included climate change estimates into land subject to storm flow regulations, based on Boston's BFE + 40 inches. Working well so far but only reviewing projects within existing Flood zones. We don't have an overlay district. Julia asked when Boston passed their ordinance language. Deanna responded that the ordinance language passed in 2019/2020. Some pushback from the commission to the expanded definition due to the amount of work to cover the extended area with limited staff.

Rick - Asked Deanna to confirm that Boston is able to have higher design flood elevations by having an overlay zone that requires a special permit. Deanna responded that the special permit is giving them the ability to exceed the state building code. Rick asked if this meant replacing all the current usages and replacing them with a special permit usage. Deanna said she would have to research the language but she does not believe it requires wiping out the current as of right uses. The area susceptible to challenge is the freeboard requirement and the special permit works around this.

Jon-Eric - Asked for Deannes opinion on cities that might want to go above and beyond what Boston has done, since it is likely that 40 inches will not be sufficient. Deanna said this question was often asked during presentations on the climate resilience report. Deanna feels that any reputable and defensible scientific dataset could be used. Consider requirements in flood risk areas but also where you require flood-resistant standards. Currently we know there is construction going on in flood-prone areas that are not covered by the FEMA BFE, and they are not taking into consideration any flood protection standards. There is a process under the state building code regulations, that allows a municipality to petition the board of building regulations and standards and state that they have data to show their floodplain is larger than the existing FEMA floodplain and, as a municipality, they want to mandate flood-resistant construction in this area. CLF is actively looking for municipalities to petition.

Barry - Asked if regulations or incentives are more effective in protecting communities and encouraging sustainable building. Deanna replied that significant incentives can be effective but her subjective opinion is that regulation is more effective. She likes the flexible approach to incentives like Somerville is using. Some type of minimum standard is necessary. Typically resiliency is looked at as an add-on. This is the wrong thinking since resilience is a public health issue and that's what is part of the minimum requirements.

Other Agenda topics.

- Approval of 8/24/22 mtg notes - There was one change to the minutes which is addressed in the section on the MIMAP flood map section below. With this change, the minutes were approved and will be sent for posting.
- Committee meeting norms/best practices:
  - The Resiliency Comm is an advisory body to the Mayor;
  - We're charged with advocating and overseeing implementation of the City's Resiliency Plan;
  - We are somewhat unique from other city committees in that we are comprised of city staff, city officials and volunteers;
  - Even as an advisory board, we still seek to follow public meeting best practices, and so we open our monthly meetings to the public and post our agendas and meeting minutes for our meetings.

Discussion: The committee discussed whether virtual meetings should be recorded and posted to the city's youtube channel and NCM hub. Due to the time of the meeting, not everyone can attend. There was a decision that starting next meeting we will record and post. There will be a verbal reminder that the meeting is being recorded. Also public comments will be added as a standard agenda item.

- Public Comments:
  - Councilor Mark Wright noted that he enjoyed the presentation. He is pleased to hear will be adopting more of the open meeting standards such as posting recordings due to the hour of the meeting and important public work the committee is doing. He thanked the committee for adopting that change.
  - Tom Starr - Asked for updates on the Lower Artichoke and Central Waterfront bulkhead/Cashman park projects (see sections below)
- Committee Updates
  - CommEdu

- Brochure (Julia) - Proof was printed and found a couple changes. It is being reviewed by the mayor's office before printing.
    - StoryMaps (Brett) - Account now through MVPC. Currently moving account to MVP. Running into some glitches with a new base-map. Need to identify content reviewers for the new page. Indian Hill water-line needs review from Jon-Eric. Jon-Eric said he is happy to review. Brett noted he needs to define a release process that will ensure the appropriate review.
    - City Website Overhaul (Molly) - Implementation is still 4-6 weeks out. Will get an update for the next meeting.
    - Storm Surge Speaker Series - September (Sarah) – The tickets for the movie 2040 are going fast so Sarah encouraged members to get theirs if they haven't already. November's speaker will be on Ocean Carbon Sequestration techniques. Starting planning for 2023 Speaker Series and encouraged members to send input on topics they would like to see (updates on resilience projects or other climate related topics).
    - Tracking Resiliency Plan Implementation Progress (Jane) - no update
  - Regs Working Group
    - MIMAP floodplain mapping/Resiliency Questionnaire (Jon-Eric/Jane) - Jon-Eric modified the future flood projection lines, sent them back to Steve Lopez and he will be done with them tomorrow or Friday.
    - Last month we met with Steve at MVPC and discussed creating expected flood zones on MIMAP.
    - We will not create a contour line at FEMA + 40 inches.
    - We are showing projected future flood inundations, FEMA, FEMA +2, +4 +6, +8 and +10 as horizontal lines that move inland. Also showing Mean High Water, MHW, MHW + 2, +4, +6, +8, +10
    - Rick noted we are showing future flood inundation levels, as a tool for educational viewing areas that could potentially be adopted in the future zoning as an extended flood hazard overlay district and require a special permit in that overlay.
    - August Minutes will be corrected on this point.
  - Finance & Funding
    - Grants (Julia) She, Sarah, and Jane w/ Nancy London spoke with Michelle Rowden on the MVP action grant feedback. Micro-grants were problematic to the reviewers. Michelle's recommendation was to work with groups up front and incorporate their proposals. Solicit proposals and incorporate them into the grant and reapply next year. We can apply for two mvp grants and they will not compete against each other.
  - Other Business
    - Nbpt Hazard Mitigation Plan (Julia) - No update
- City Project Updates
  - Lower Artichoke Dam Reconstruction Project (Jon-Eric) – Jon-Eric submitted a contract proposal from Tighe and Bond for 30 percent conceptual design. Being reviewed by the Sewer/Water Commission. Conceptual design will start next month assuming approval by the commission. Will easily be a year with regulatory agencies. Final design a year. Internally thinking of a time frame of 4 years before construction can start.
  - Indian Hill Raw Water Line and Pump Station (Jon-Eric) – no update

- Water Supply Protection and Treatment Projects: Amesbury Interconnect – emergency and permanent, WTP Upgrades, watershed management (Jon-Eric) - no update
  - WWTP Flood Protection - sidewalls (Jon-Eric) - no update
  - Central Waterfront Bulkhead Renovations (Andy) – no update
  - Central Waterfront Park (Andy) - no update
  - PI / Reservation Terrace status (Julia) - Dredge of the Merrimack river is expected to start in Early October. Contractor is on board. Sarah asked about a public communication plan on this project and Julia noted that the Army Corp of engineers is exempt from a number of things and will be difficult to get them to hold a public forum on this project. Pre Construction meeting tomorrow. Plan is to close off the beach. Julia will ask about public communications.
  - Waterfront West (Andy) - no update.
- **New Business**
    - Invasive plants – Molly, Kim Turner, Jane and a high-school student are meeting to talk about invasive plants and how we can encourage native plantings.
    - Jane will be asking Tom Cusick to talk about drought issues at a future meeting.

**Next Meeting:** October 19, 2022, 3-4:30pm

----- Forwarded message -----

From: **Deanna Moran** <[dmoran@clf.org](mailto:dmoran@clf.org)>  
Date: Wed, Sep 21, 2022 at 6:08 PM  
Subject: RE: Thank you!  
To: Jane Healey <[jahealey@gmail.com](mailto:jahealey@gmail.com)>

Hi Jane,

I am so happy you found it helpful! I have attached my slides from this afternoon as well as the CLF reports that I mentioned in my presentation.

In terms of other background materials, I can't recommend this MAPC resource enough... this is where I pulled most of my information for the best practices (in addition to just reading the codes themselves) and it is pretty user-friendly:

<https://www.mapc.org/resource-library/climate-resilient-land-use-strategies/>

I would love to follow up on the possibility of Newburyport petitioning the BBRS. Let me know what works.

Best,

**Deanna Moran, AICP**

Vice President, Healthy & Resilient Communities  
Conservation Law Foundation  
*Pronouns: she/her/hers*

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[Newburyport Resiliency.pdf](#)  
[CLF ClimateCodeReport 2019.pdf](#)  
[GRC CLF Report R8.pdf](#)  
[First Street Foundation Flood map dataset](#)