

# Climate Resilient Carlisle

MVP Core Committee Meeting  
Recommendations Update

September 05, 2024, 11 am



# Agenda

- Update on Specific Recommendations
- Next Steps
- Start to Schedule Meetings with Boards and Commissions

# Last Update: Five Broad Topics

- Healthy ecosystems and natural resources
- Resilient housing and household resource use
- Drought and wildfire resilience
- Flood resilience
- Resilient power and utilities

# Healthy Ecosystems and Natural Resources

## Concern

- Healthy (contiguous, unpolluted, native, diverse) ecosystems increase resilience to climate change.
- Carlisle's codes generally focus on each parcel or each issue individually, rather than considering the health of the entire ecosystem.

## Proposed solution(s)

- Update codes to advance meaningful contiguity of ecosystems and overall ecosystem health and incorporate green stormwater infrastructure as a preferred option.
- Develop public education and training on green infrastructure and natural systems for homeowners and municipal staff.

## Where we heard this concern:

- Planning Board
- ESC
- Conservation Commission

# Draft Proposed Code Revision

## Conservation Cluster Open Space Community (CCOSC) Regulations

## Residential Open Space Community (ROSC) Regulations

## Senior Residential Open Space Community (SROSC) Regulations

- All enforce a certain set of Open Space criteria to secure Special Permit approval
- None include Open Space connectivity among the criteria

### **Draft Suggested language to include in criteria for Open Space:**

*That the Open Space shall, to the extent possible, provide meaningful connectivity within the subject property and to adjacent protected open space, to enhance habitat value, passive recreational trail value, or natural resource protection value.*

**Consider making the criterion required versus optional** (currently projects seeking ROSC or SROSC Special Permit must meet one of a number of optional Open Space criteria)

# Resilient Housing and Household Resource Use

## Concern

- Carlisle is primarily residential, so there are many opportunities to make residences more resilient.
- Houses in Carlisle are larger and on larger lots than average relative to the region, and therefore use more resources.

## Proposed solution(s)

- Update codes to focus on resource use rather than housing type.
- Make connections between housing needs and resilience. Encourage salvage and consider how to protect historic structures from risks.
- Develop public education on home water and other resource use.
- Consider developing a septic utility to maintain local septic systems.

## Where we heard this concern:

- Planning board
- Affordable Housing Trust
- Board of Health
- ESC
- Historic Commission

# Demolition Delay?

Does it work? Depends on the goal.

For Carlisle, from discussion it sounds like the goal is generally to reduce the waste stream from home demolition materials, and to preserve the embedded carbon in buildings.

This goal is not necessarily linked to historic structures only.

Consider requirements for managed deconstruction and recycling, and planning for deconstruction. For all buildings or projects over a certain size.

# Drought and Wildfire Resilience

## Concern

- Droughts are expected to increase in frequency and severity. Droughts increase wildfire risks, which are growing in Carlisle. They also increase the perceived need for landscaping water, raising risks of groundwater depletion.
- Board of Health's irrigation regulations do not consider drought.

## Proposed solution(s)

- Update irrigation regulations to consider drought and watering bans.
- Develop public education and/or policies for public lands on drought resistant and native landscaping choices.
- Develop a forest management and wildfire protection plan.

## Where we heard this concern:

- ESC
- Board of Health
- Conservation Commission
- Fire department

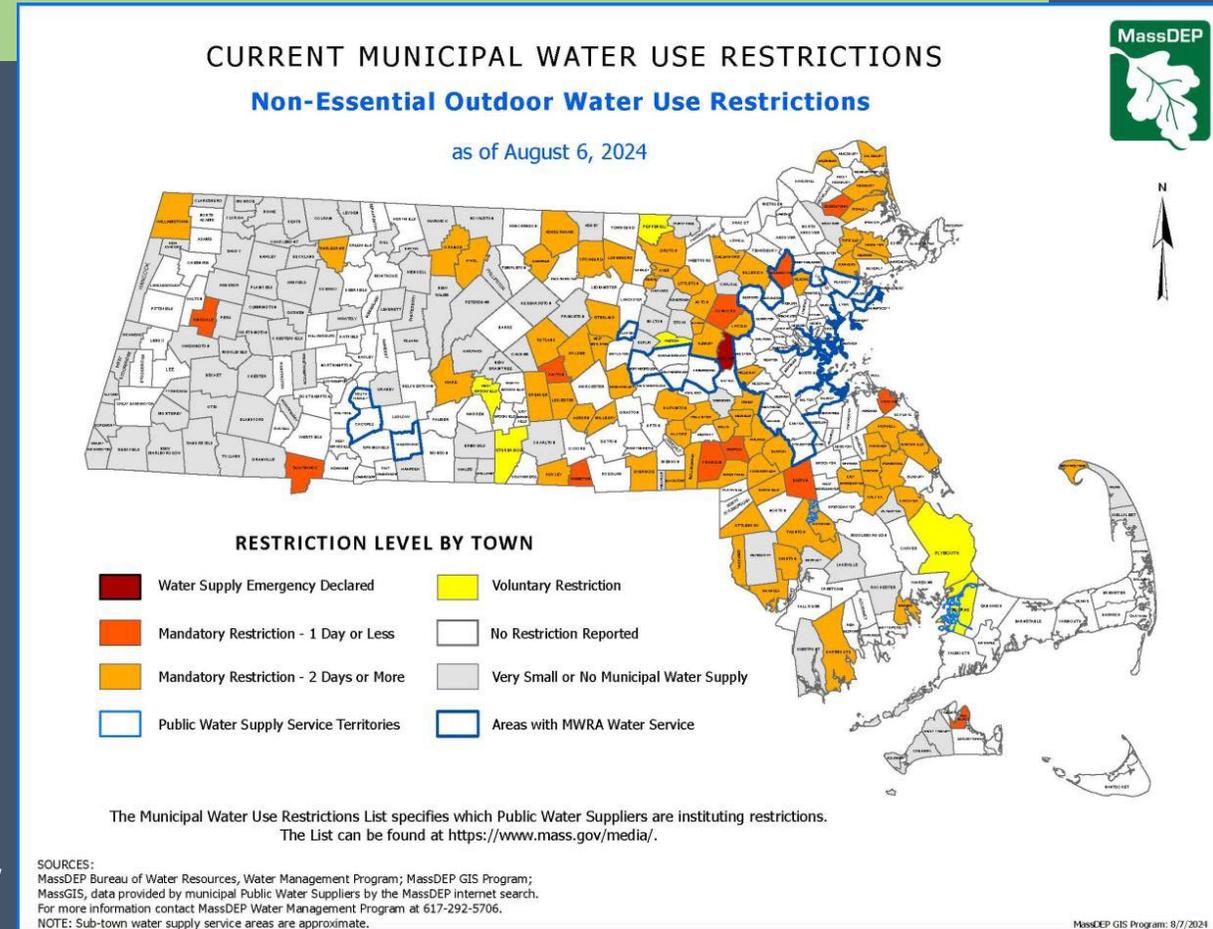
# Draft Proposed Code Revisions

Include a provision to enforce outdoor watering restrictions during drought conditions. Usually includes:

- Limitations on the hours of the day you may water
- Limitations on the number of days per week you may water
- Restrictions to automatic sprinklers or irrigation systems
- A complete ban on outdoor watering.

## MA DEP Model Water Use Restriction Bylaw

- <https://www.mass.gov/info-details/model-water-use-restriction-bylawordinance-update>



# Wildfire Management

A recommended action to reduce the risk of wildfire in a rural residential setting like Carlisle is not yet clear, other than additional firefighting cisterns.

New references and resources emerging:

- MA 2023 Report of the Climate Forestry Committee: Recommendations for Climate-Oriented Forest Management Guidelines  
<https://www.mass.gov/doc/forests-as-climate-solutions-climate-forestry-committee-report-final/download>
- MA DCR Forest Fire Prevention Programs  
<https://www.mass.gov/info-details/forest-fire-control-prevention-programs>
- Forest Fire Protection Commission (Northeast Compact)  
<https://www.nffpc.org/>

# Flood Resilience

## Concern

- Flooding is becoming more common, and the floodplain is widening.
- Carlisle's 1% annual chance floodplain (per FEMA mapping) does not account for climate change.
- Carlisle does not have a local Wetlands Protection Bylaw.

## Proposed solution(s)

- Update regulations and zoning to incorporate the 0.2% annual chance floodplain.
- Develop a local Carlisle Wetlands Protection Bylaw and Regulations.

## Where we heard this concern:

- ESC
- Conservation Commission

# Expand Floodplain Protections to the '500-year floodplain' (0.2% AEP)

Flood Hazard or Flood Plain is addressed in:

- Zoning Wetlands/Flood Hazard District
- Water Supply Regulations
- Wetland Protection Bylaw
- Board of Health Regs for Review of Subdivision, CC, ROOSC, and SROSC

Consider Detangling the Wetlands Protection from Flood Hazard District in Zoning

Expand protections for 0.2% AEP floodplain in Wetlands Bylaw

# Resilient Power and Utilities – Still Researching

## Concern

- Carlisle has a variety of emergency management needs related to utilities, communication infrastructure, and backup power.
- Many households in Carlisle have started to use backup battery power. These come with fire risks.
- Relationships with utility and their arborists could be stronger.

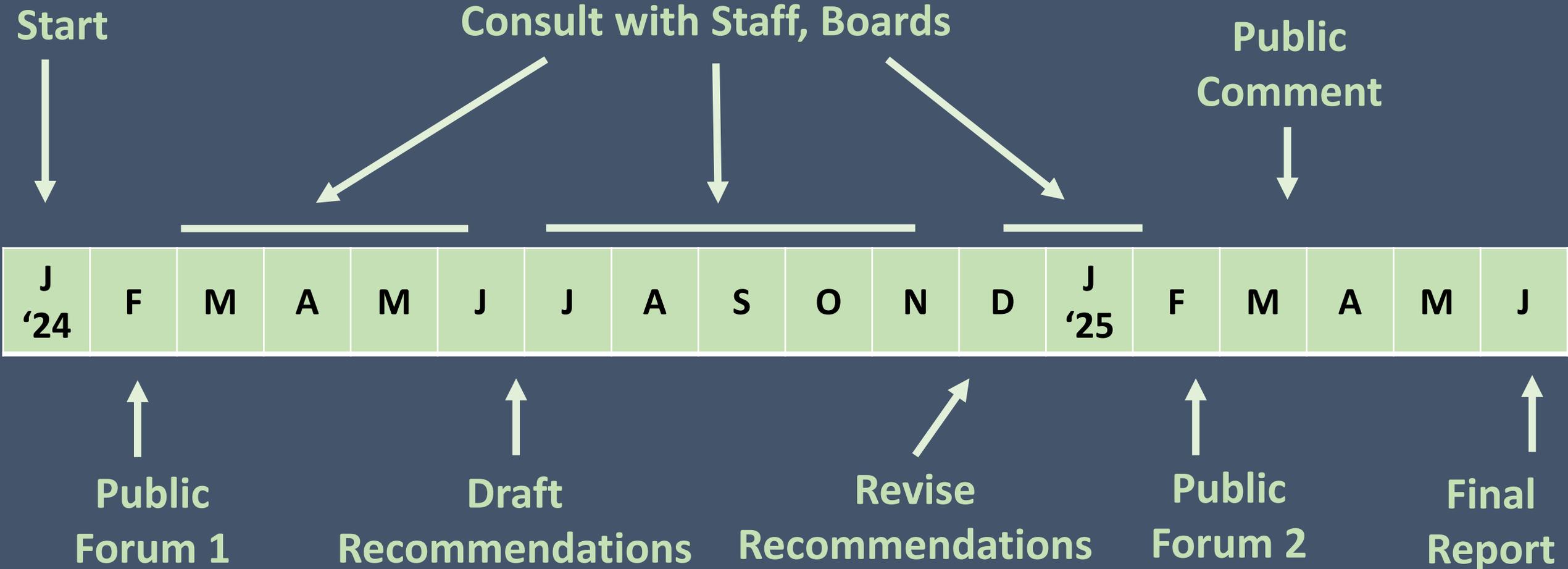
## Proposed solution(s)

- Develop a forest management and community wildfire protection plan.
- Reduce risks to power and other emergency management infrastructure. Strengthen relationships with utilities.
- Develop public education on battery fire risks.

## Where we heard this concern:

- ESC
- Conservation Commission
- Fire Department

# Climate Resilient Carlisle – Timeline (Approx.)



# Next Steps

## SUMMER

- Sort proposed solutions by deliverable through this project
  - Full recommendation
  - Examples and suggestions to get started
  - Information on what we heard
- Start digging in!

## BEYOND

- Fall: Meetings to discuss our specific proposed changes
- Winter: Public forum #2 and public comment
- Spring 2025: Develop final report/plan, with prioritization and roles

# Questions?

## Reach out if anything comes to mind!

Thank you!!

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