Village of Millbrook
Climate Smart Resiliency Planning

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Climate Smart Resiliency Planning Tool is a checklist to identify gaps in a community's planning process.

Cornell Cooperative Extension (CCE) evaluated opportunities for the Village of Millbrook to improve its community's resilience to climate change with the Climate Smart Resiliency Planning Tool (CSRPT or Planning Tool). The Planning Tool reviews many long-term and short-term aspects of climate change and storm preparedness by reviewing Village of Millbrook, Town of Washington, and Dutchess County planning documents, activities, and management. Documents were reviewed, and municipal staff members were consulted in the process of completing the assessment. The assessment and recommendations have been shared through discussions at Millbrook Village Board meetings. Completing the **Climate Smart Resiliency Planning Tool is a CSC PE7 Action**[1] worth 6 points.

Municipal staff engaged in the Village of Millbrook Climate-Smart Planning assessment:
Peter Doro, *Village Mayor*
Mike Herzog, *Climate Smart Communities Lead Task Force Member*
Ken McLaughlin, *Building Inspector and Code Enforcement Official*

The completed assessment and recommendations highlight areas of opportunity for the Village of Millbrook to integrate storm and climate change preparedness into its municipal operations and planning.

Areas of Strength

- The Village of Millbrook is a Bronze Certified Climate Smart Community as recognized by New York State.
- The Village of Millbrook has an active Climate Smart Task Force and designated Climate Smart Communities coordinator.

[1]Information on the CSC PE Action can be found at https://climatesmart.ny.gov/actions-certification/actions/#open/action/87

- The Village of Millbrook completed their Climate Smart Resiliency Planning Tool, is working to complete their Climate Vulnerability Assessment in 2026, and is working on completing their Climate Adaptation Plan for 2027.
- The Village of Millbrook has adopted Dutchess County's most recent Hazard Mitigation Plan.
- The Village of Millbrook completed a Natural Resource Inventory. This is a useful tool that can be used when updating municipal plans, developing ordinances or overlay zones, and reviewing development projects.
- The Village of Millbrook has a Comprehensive Plan, which provides a vision for how the community wants to grow over time and recommendations on how to achieve that vision. It also offers an opportunity to consider how to balance important elements of sustainability: environment, economy, and equity.
- The Village of Millbrook has an active Climate Smart Communities page
- The Village of Millbrook completed Trees for Tribs plantings in 2013, 2015, and 2026 to build up natural riparian buffer zones.

Areas of Opportunity

- The Village of Millbrook should consider creating an Evacuation Plan, Short-Term Recovery Plan, and Long-term Recovery Plan to ensure they are better prepared to handle major natural disasters.
- The Village of Millbrook should consider updating their Emergency Management/ Plan. If doing so, be sure to include:
    - The roles of municipal officials and emergency responders are clearly defined.
    - Incorporates data and predictions related to natural hazards,
    - Identifies known and potential hazard areas and evacuation routes out of those areas,
    - actions to take during, immediately after, and long-term following a climate disaster.
- The Village of Millbrook can complete a Government Operations Climate Action Plan[2] and a Community Climate Action Plan[3]. These are both Climate Smart Communities priority actions. Since the Village of Millbrook has already completed a government operations greenhouse gas inventory and a community greenhouse gas inventory, they have the groundwork to build both Action Plans.
- The Village could seek out training opportunities for municipal staff or emergency volunteers related to emergency management issues, such as the FEMA Emergency Management Institute and similar training available at the National Emergency Training Center campus.

[2] More information on this Pledge Element can be found at https://climatesmart.ny.gov/actions-certification/actions/#open/action/10

[3] More information on this Pledge Element can be found at https://climatesmart.ny.gov/actions-certification/actions/#open/action/11

- Consider providing residents with information on making emergency kits, evacuation kits, and evacuation routes.
- Consider conducting storm-preparedness outreach to residents and businesses through means beyond web-distribution. This can be invaluable for those without internet access.

Recommendations

The following opportunities emerged under each of the sections of the Climate Smart Planning assessment:

Section 1- Plan Checklist

- The Village of Millbrook can create an Evacuation Plan and Long-term Recovery Plan to ensure they are better prepared to handle major natural disasters.
- The Village of Millbrook can create a Natural Resource Conservation Plan and a Historic Preservation Plan.
- When Dutchess County next updates their Hazard Mitigation Plan, The Village of Millbrook may need to update their Multi-Hazard Mitigation Plan, Disaster Recovery Plan, Floodplain Management Plan, and Economic Development Plan.

Section 2- Vulnerability and Risk Assessment

- The Village of Millbrook should identify any potential risks that could amplify the effect of a given hazard (e.g. a storm surge inundation at a high tide leading to increased flood risk) to ensure that they are prepared should such a situation occur.
- Consider training relevant municipal employees or emergency response volunteers on use of the Hazus-Multihazard tool. This software, developed by FEMA, helps communities analyze and estimate potential losses from natural disasters[4].
- When evaluating and prioritizing climate adaptation strategies, the Village of Millbrook should consider taking into account the feasibility of each strategy, as well as any co-benefits that enacting each strategy will have.
- Consider geography, conditions, and timing when identifying and categorizing adaptation strategies.
- Consider having stakeholders link adaptation strategies to the capital budget and rehabilitation cycles.
- Ensure that vulnerability and risk assessments are shared with all relevant municipal officials and emergency managers.

[4] More information on can be found at https://www.fema.gov/flood-maps/products-tools/hazus

- Incorporate estimates of future financial losses resulting from natural disasters into plans.

Section 3- Public Outreach and Engagement

- The Village of Millbrook has publicly available information on floodplains information within their Natural Resource Management Plan. Consider publicizing this information to property owners, businesses, insurance agents, real estate agents, and lenders to make this information more accessible.
- Consider providing the public with flood mitigation information.
- Although the Village of Millbrook provides emergency preparedness information on their website, doing so through other means can be invaluable for those without internet access. In addition to using the website, consider conducting storm-preparedness outreach to residents and businesses through:
    - Brochures and newsletters
    - Community meetings
    - Television or radio
- Provide residents with guidance on developing personal and family evacuation plans.
- Provide residents with information on what to include in their emergency supplies, at-home emergency kits, and evacuation kits.[5] Doing so can ensure that residents are better prepared in the event of a natural disaster or other emergency.
- Consider putting public information plans in place to provide residents with the following information prior to the threat of a storm. When doing so, be sure to include the following information:
    - Expected inundation areas
    - Evacuation routes
    - Evacuation bus pick-up locations
    - Locations of severe weather shelters
    - Locations of pet shelters
- Inform residents of the American Society for the Prevention of Cruelty to Animals (ASPCA)'s disaster preparedness steps for domesticated animals[6]
- Inform property owners of the FEMA-suggested means to protect their homes against storm and wind damage. This can include FEMA's "Are You Ready" guide[7] and FEMA's Homeowner's Guide to Retrofitting[8]
- Consider increasing accessibility by using multilingual and culturally sensitive approaches when providing residents with essential information. Translations of key information on the village website, signable in multiple languages, and information on

[5] For more information, visit: https://www.ready.gov/kit

[6] ASPCA's Disaster Preparedness for Domesticated Animals: https://www.aspca.org/pet-care/general-pet-care/disaster-preparedness

[7] FEMA's "Are You Ready" Guide: https://www.ready.gov/sites/default/files/2021-11/are-you-ready-guide.pdf

[8] FEMA's Homeowner's Guide to Retrofitting: FEMA P-312, Homeowners Guide to Retrofitting – Six Ways to Protect Your Home from Floods, 3rd Edition | Building America Solution Center (pnnl.gov)

how residents can connect with translation services are all great ways to overcome any communication barriers.

- The Village of Millbrook can earn points towards ***CSC PE9 Action: Social Media (3pts)*** by informing residents about available disaster resources (as listed in this section) through municipal website links, television, radio, social media, etc.
- Consider installing high water mark signs at relevant public locations.

Section 4- Integration of Municipal Plans

- Should the Village of Millbrook update their Master Plan, or develop another plan that contains Comprehensive Plan elements, consider including the following:
    - Reference the local hazard mitigation plan and disaster recovery plans.
    - Explain the support and involvement of emergency managers, floodplain managers, coastal managers and public works officials.
    - Describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information in the planning process documents
    - Identify climate resilience within its mission, vision, or goals.
    - Address hazards as elements of the municipal master plan.
    - Include how frequently the plan itself should be updated to ensure that it remains relevant.
    - Encourage using green infrastructure techniques to help prevent flooding.
    - Emphasize non-structural pre-disaster mitigation measures such as acquiring flood-prone lands and adopting No Adverse Impact flood plain regulations.

  The Village can apply to grants to fund an overhaul of their Master Plan, including the funding opportunities listed on the last page of this report.

- Consider adopting the concepts of No Adverse Impact (NAI), a floodplain management approach recommended by the Association of State Floodplain Managers that aims to help coastal communities achieve disaster resilience.[9]
- Define a plan for transportation and other needs of vulnerable populations (elderly, special needs, disabled, etc.) in event of an emergency.
- Consider having land development regulations audited to ensure that development in safer areas meets the community's needs for off-street parking requirements, building height and density, front yard setbacks and that these regulations do not unintentionally inhibit development in these areas.
- The Village of Millbrook should consider participating in the New York State open space plan updates and update their open space plan in coordination with the state's plan.

[9] More information available at: https://www.floods.org/resource-center/nai-no-adverse-impact-floodplain-management/

- Consider working with the Dutchess County government to ensure that their next update to the Dutchess County Hazard Mitigation Plan to ensure that it includes the following when it is adopted by the Village of Millbrook:
    - Provides a general explanation of the environmental, social and economic consequences of failing to address natural hazards.
    - Considers inland riverine erosion as a hazard.
    - Identifies landslides as a hazard.
    - Identifies specific conservation measures for acknowledged drought thresholds.
    - Identifies opportunities to incorporate hazard mitigation into existing planning mechanisms (e.g. land-use planning, capital investments, shoreline restoration projects).
- The Village of Millbrook should consider incorporating its floodplain management plan (included within the village's Master Plan Chapter 115) into its open space plan, stormwater management plan, and multi-hazard mitigation plan.
- The Village of Millbrook should develop an economic development plan or strategy that incorporates climate change effects into its assessment of economic vulnerabilities.
- Identify any areas of significant public investment, water dependent uses, and critical infrastructure that require structural protection because options for relocation, elevation, or employment of non-structural measures are not feasible.

Section 5- Disaster Preparedness and Recovery

- The Village of Millbrook should consider becoming recognized as a Storm Ready Community[10]. Storm Ready is a program offered through the National Weather Service to help communities to take a proactive approach to preparing for extreme weather and natural disasters.
- The Village of Millbrook should consider implementing an early flood-warning system. This can be particularly helpful to those living in the houses along the left branch of the Wappingers Creek.
- Consider adding the following when updating the Village of Millbrook's Comprehensive Emergency Management Plan:
    - Steps for emergency protective measures (e.g. sandbagging, erecting warning devices, search and rescue). This can ensure that any newcomers can still properly assist in the event of an emergency.
    - The frequency that the plan itself should be updated. Many such plans can go years, or decades without being updated. As the effects of climate change continue to amplify; priorities, costs, and approaches to natural disasters may change.
    - Best available projections of the frequency and severity of extreme storm events.

[10] More information at: https://www.weather.gov/stormready/

- The Village of Millbrook should consider designating locations as storm shelters. This is especially important for any non-residents, who may have nowhere else to take shelter. The Code of the Village of Millbrook does allow their Emergency Services Organization to use private property to provide temporary shelter in the event of a declared emergency. In the event where an intense storm occurs suddenly, or more severely than predicted, having a publicly designated storm shelter can be of great value. Particularly, a building designed to withstand high-wind effects, located outside of flood-hazard storm-surge inundation areas.
- The Village of Millbrook should create an Evacuation Plan. If they do, they should ensure that it addresses the following questions:
    - Are responsibilities for municipal evacuation clearly defined?
    - Does the plan identify the necessary time frame to evacuate residents and vacationers from storm-hazard areas?
    - Does the plan identify where evacuation routes are prone to flooding?
    - Is there more than one route identified to evacuate the community?
    - Does the evacuation plan identify and provide for groups that rely on public transportation (or lack private vehicles) for emergency evacuations?
    - Does the plan identify the conditions that would initiate a traffic lane reversal?
    - Does the plan identify local and state evacuation assistance programs for the special needs peoples and locations (hospitals, nursing homes, elderly, disabled, schools)?
- Consider maintaining and promoting a special needs registry.
- The Village of Millbrook can explore options for portable communications systems that can operate under poor weather conditions and when electrical power is not available.
- Consider establishing a cooling center, an air-conditioned public location that residents can go to in the event of extreme heat. Having Cooling Centers is a Climate Smart Communities Pledge Element, **CSC PE7: Cooling Centers**[11], worth up to nine points. Be sure to consider potential problems such as transportation obstacles, effects of power outages or flooding, and other needs of vulnerable populations/communities.
- The Village of Millbrook should consider adding waste-management measures to their continuity of operations plan, specifically:
    - Providing guidance on post disaster waste management and debris removal
    - Identifying temporary waste-disposal staging areas in the event of a disaster.
- The Village of Millbrook should make a long-term recovery plan. Long-term recovery plan provides guidelines on steps the community will take to re-establish a pre-disaster condition or better and enable to community to sustain itself. When doing so include the following:
    - Identify redevelopment opportunities outside of flood-hazard areas.
    - Advocate the use of advisory flood maps to define post-disaster redevelopment building elevations.
    - Identify opportunities to retrofit or relocate existing structures or infrastructure in hazard-prone areas.

[11] Information on this CSC Pledge Element Action can be found at https://climatesmart.ny.gov/actions-certification/actions#open/action/93

    - Utilize risk and vulnerability mapping to determine the location of future development.
    - Include provisions to reduce greenhouse gas emissions from reconstructed areas through improved energy efficiency, use of renewable sources of energy and application of smart-growth principles.
- Consider using land management practices to improve the capability of the soil on their lands to retain water.

Section 6- Hazard Mitigation Implementation

- Consider participating in FEMA's Community Rating System[12] The FEMA Community Rating System is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceeds the minimum National Flood Insurance requirements. Participating in this program is a **Climate Smart Communities PE7 Action: National Flood Insurance Program Community Rating System[13]** worth up to 9 points.
- Consider utilizing the following tools to manage development in hazard-prone areas:
    - Transfer of development rights or purchase of development rights
    - Buyouts of vulnerable properties
- Consider using land-acquisition programs to purchase land-conservation easements in hazard-prone areas.
- The Village of Millbrook can encourage sustainable enhanced methods of shoreline protection through incentives or regulation.
- The Village of Millbrook should consider enacting a plan to control invasive species. Some particularly harmful invasive plants in New York State include[14]:
    - The Japanese Barberry is a plant whose branches are a breeding ground for ticks. It also harms native plants by lowering soil acidity[15].
    - The European Water Chestnut creates a mat of plant matter that covers bodies of water, destroying native ecosystems and preventing recreational use. They can also block waterways and clog culverts[16].
    - The Tree of Heaven is a very hardy invasive species. Its growth can break through pavement and damage the foundations of buildings[17].
- Consider utilizing impact fees, accommodation taxes, or user fees to pay for shoreline protection and restoration, wetland and riparian buffer restoration and protection.
- Consider established special area ordinances for wildlife habitat preservation.

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[12] FEMA's Community Rating System: Community Rating System | FEMA.gov

[13] Information on this CSC Pledge Element Action can be found at:https://climatesmart.ny.gov/actions-certification/actions/#open/action/99

[14] Information on Invasive Species: https://nyis.info/species-information/

[15] https://nyis.info/species/japanese-barberry/

[16] https://nyis.info/species/water-chestnut/

[17] https://www.invasivespeciesinfo.gov/terrestrial/plants/tree-heaven

- The Village of Millbrook can utilize FEMA grant programs to implement mitigation projects, including:
    - FEMA Hazard Mitigation Grant Program, which is designed to help communities implement hazard mitigation measures following a Presidential major disaster declaration.
    - FEMA Pre-disaster Mitigation Grant Program, which is designed to assist States, U.S. Territories, federally recognized tribes, and local communities in implementing a sustained pre-disaster natural hazard mitigation program.
    - FEMA Flood Mitigation Assistance Program, which provides resources to assist states, tribal governments, territories and local communities in their efforts to reduce or eliminate the risk of repetitive flood damage to buildings and structures insurable under the National Flood Insurance Program.

Potential Funding Sources

- DEC Climate Smart Communities Grant Program
- DEC Grant Applications
- DEC Hudson River Estuary Program Grants
- FEMA Hazard Mitigation Grant Program
- FEMA Building Resilient Infrastructure and Communities Program
- FEMA Flood Mitigation Assistance Grant Program
- HUD Community Development Block Grants
- NYS Department of State Grants (including Local Waterfront Revitalization Program)
- NYS Local Waterfront Revitalization Program (LWRP)