Village of Ossining, Town of Ossining, Village of Briarcliff Manor, & Town of New Castle

Community Resilience Building Workshop
Summary of Findings
March 2020

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OVERVIEW

Extreme weather events and mounting natural hazards cause social, environmental, and infrastructure damages and losses. Municipalities, regional planning organizations, states, and federal agencies will need to increase their resiliency and adapt to these conditions if they are to avoid damages today and into the future. For communities in the Hudson Valley, this need is strikingly evident. Recent devastating events such as Tropical Storm Irene and Superstorm Sandy have reinforced this urgency and compelled leading communities to proactively plan and mitigate potential risks. Ultimately, this type of leadership will reduce the exposure and vulnerability of citizens, infrastructure, and ecosystems, and will serve as a model for communities across the Hudson Valley, New York State, and the country.

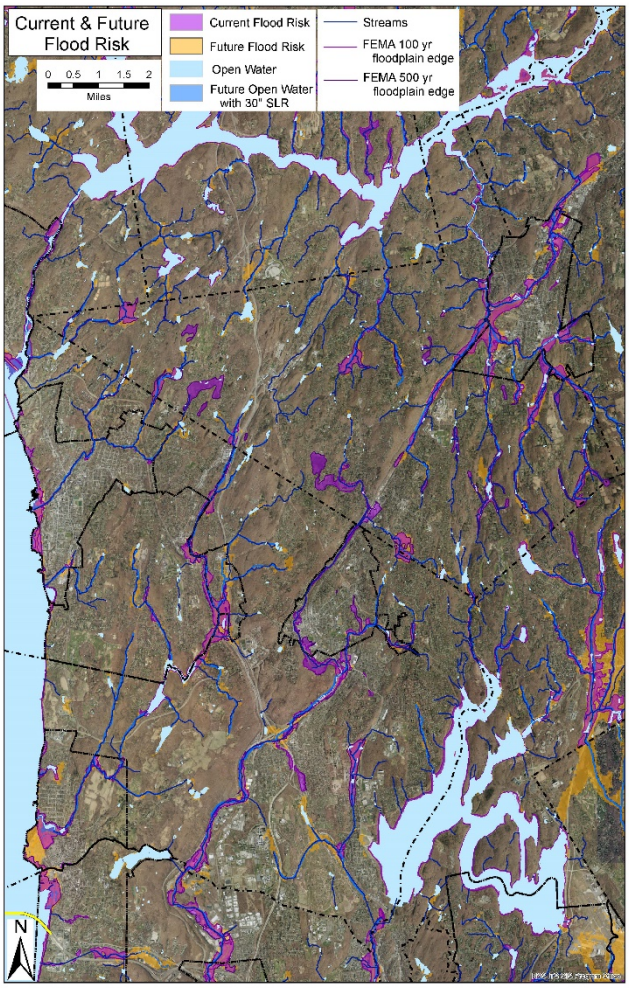

Figure 1. Current and future flood risk for the study areas including the Village of Ossining, Town of Ossining, Town of New Castle and Village of Briarcliff Manor.

In January 2020, The Nature Conservancy and the Hudson River Watershed Alliance approached municipal officials in the Village of Ossining, Town of Ossining, Village of Briarcliff Manor, and Town of New Castle to discuss and identify resilience needs relative to infrastructure, habitat restoration, and community resilience. A strategy was developed to identify community assets and areas of risk and proposes initial adaptation strategies through a Community Resilience Building Workshop process.

The Community Resilience Building (CRB) Workshop is a unique "anywhere at any scale" community-driven process (www.CommunityResilienceBuilding.com) that provides an appropriate platform to engage elected officials, municipal staff, and other key stakeholders from participating communities. This integrated planning process offers participating communities the opportunity to identify specific next steps for local policies, planning, and assets related to climate resilience. The purpose of this facilitated, multi-community workshop was to guide implementation of priority adaptation actions across the

Village of Ossining, Town of Ossining, Village of Briarcliff Manor, and Town of New Castle, with a focus on reducing the impacts of flooding (Figure 1).

The workshop's central objectives were to:

- Define extreme weather and articulate local natural and climate-related hazards.
- Identify existing and future vulnerabilities and strengths.
- Develop prioritized actions for the municipalities and broader stakeholder networks.
- Identify opportunities for the community to advance actions to reduce risk and increase resilience.

A Community Resilience Building Workshop was held with representatives from all four municipalities on February 27, 2020 at the Ossining Fire Department Headquarters. This report provides an overview of the top hazards, the current community strengths and concerns, and the suggested actions to improve resilience to natural and climate-related hazards in the communities today and in the future. The summary of findings will benefit from further comments, feedback, and updates from workshop attendees and additional stakeholders alike. The participation of all those concerned in the communities will help continue and expand collective leadership on hazards and community resilience.

PROJECTED FUTURE CONDITIONS

Current climate and environmental conditions are projected to change in ways that will profoundly influence current interactions with natural resources. This includes the magnitude and intensity of storms and drought, rising sea level in the Hudson River and tidal tributaries, and other changes. Various platforms are available to better understand and evaluate how different climate change scenarios are likely to impact Hudson Valley communities, including:

- The Nature Conservancy's Natural Resource Navigator
- Scenic Hudson's Sea Level Rise Mapper
- Columbia University's Hudson River Flood Decision Support Tool
- New York State Climate Change Science Clearinghouse.

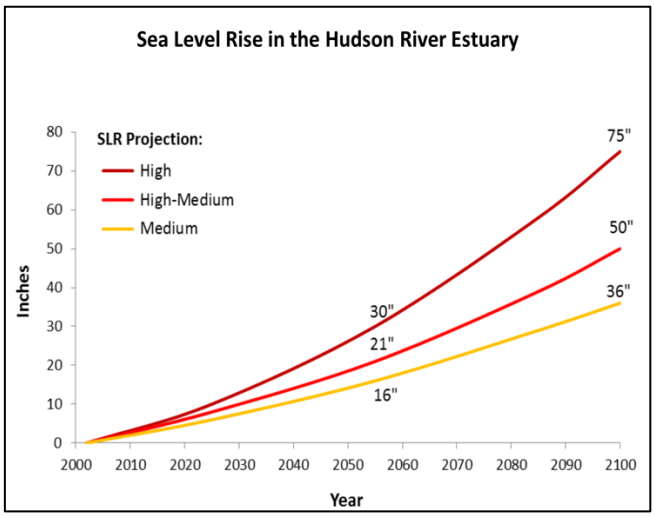

Figure 2. Projected sea level rise scenarios for the Hudson River Estuary.

As these and other tools clearly indicate, there are many possible scenarios that could manifest themselves over the course of this century. The numerous factors, both global and local, that influence these outcomes make the extent of these scenarios difficult to

predict. Thus, it is important to plan for a range of scenarios as evidenced by NY's Community Risk and Resiliency Act.

For the purpose of adaptation planning, general trends and rough estimates can be employed. For example, riverfront communities in the Mid-Hudson region should be preparing for a *minimum* of 3-6 feet of mean sea level rise by 2100. All communities in the Hudson Valley should consider the potential ramifications of:

- Increased severity and frequency of big storms, including
  - More winter precipitation (if rain, then more flooding, if snow, then 10" of snow or more per storm).
  - More flooding due to increased precipitation and increased development and impervious surfaces.
- Hotter summers.
- Increased frequency and length of heat waves and droughts.
- Shorter, milder winters.

Details on the ranges of projected future conditions are available through the New York State Water Resources Institute and through the previously referenced tools (Figures 1-3 and Table 1).

Table 1. Community assets (Infrastructure, Environment, and Social) at risk with various sea level rise scenarios and current 100-year storm in the Town of Ossining, New Castle, and Mount Pleasant, as modeled by the Hudson River Flood Decision Support Tool. The output was produced using Columbia University's Center for International Earth Science Information Network Hudson River Flood Decision Support Tool 2.0. This tool only reports projected impacts at the Town level, , not to the village or hamlet levels. Further, only towns with waterfront along the Hudson River can currently be assessed.

Impact Scenarios for Towns of Mount Pleasant and Ossining						
Type of Impact	**18" of SLR with current 100 YR Storm**		**30" of SLR with current 100 YR Storm**		**48" of SLR with current 100 YR Storm**	
Municipality	**Town of Mount Pleasant**	**Town of Ossining**	**Town of Mount Pleasant**	**Town of Ossining**	**Town of Mount Pleasant**	**Town of Ossining**
Infrastructure						
Total Damaged Buildings	17	85	18	99	25	109
Bridges	4	6	4	7	5	7
Roads (linear miles)	1	2	1	2	1	3
Rails (linear miles)	2	3	2	4	2	4
Railroad Passenger Stations	-	2	-	2	-	2
Environment						
Inundated Land Area (Acres)	113	135	124	144	137	144
Inundated Impervious Surface Area (Acres)	49	64	56	68	61	70
Inundated NWI and Tidal Wetlands (Acres)	4	8	4	8	9	8
Social						
Social Vulnerability Index of Impacted Census Blocks (Index Score is unitless)	5	7	6	7	6	7
Social Vulnerability Index of Entire Municipality	4	6	4	6	4	6

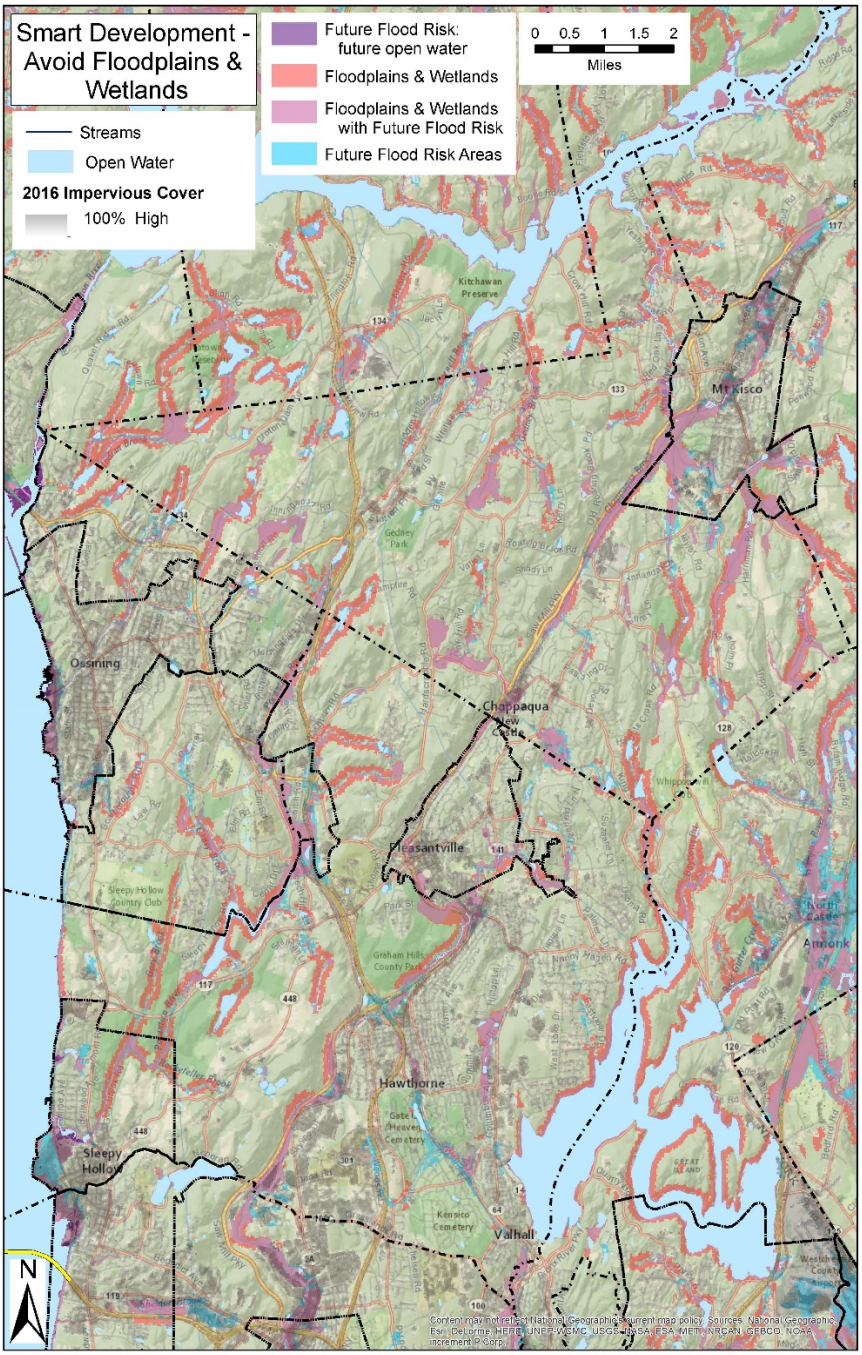

Figure 3. Projected future flood risk areas (blue shaded area) throughout the Village of Ossining, Town of Ossining, Village of Briarcliff Manor, and Towns of New Castle. Pink shaded areas represent possible areas of future floodplains and wetlands as a result of higher flood levels. Development activities in areas where the blue and pink shaded areas overlap should be carefully considered and evaluated before construction is allowed to begin.

COMMUNITY RESILIENCE BUILDING WORKSHOP SUMMARY OF FINDINGS

Top Hazards

During the core team meetings that took place prior to the workshop and at the start of the Community Resilience Building workshop, workshop participants confirmed their top natural climate hazards as the following:

1. ***Sea level rise and storm surge:*** Projected rise in future mean sea levels, combined with severe coastal storms such as Superstorm Sandy, capable of producing storm surge and coastal flooding along the Hudson River.
2. ***Inland flooding:*** Inland flooding caused by intense precipitation, storms, and subsequent runoff from rain or snow.
3. ***Drought and wildfires:*** Higher peak temperatures in summer with sporadic precipitation events, which may stress municipal and private resources, especially public water supplies and private wells. The threat of wildfires was brought up as an additional hazard, related to drought and dry conditions.

In addition to these top hazards, during the workshop the Town of New Castle asked to include extreme weather events such as hurricanes, tornadoes, and winter ice storms that result in downed trees, power outages, and roads cut off to first responders.

The above hazards have a growing impact on residents and businesses in the Town of Ossining, Village of Ossining, Village of Briarcliff Manor, and Town of New Castle, all located in Westchester County. During the Community Resilience Building Workshop, participants were asked to identify environmental, infrastructural, and social assets in their communities; determine whether those assets are strengths, vulnerabilities or both; and identify and prioritize actions. These assets and actions were identified by a diverse mix of participants from both municipalities. The following sections summarize the results of this process.

Key Assets and Areas of Concern

Numerous environmental, infrastructural, and social assets were identified, which have been grouped in several categories.

There were four major areas of concern related to **environmental assets**:

- **Watersheds and waterbodies**, including the Hudson River, Croton River and Croton Reservoir, Indian Brook and Indian Brook Reservoir, Pocantico River, Sing Sing Kill, Sparta Brook, and Saw Mill River.
- **Park lands and open spaces**, both public and privately-owned. These include municipal parks, like Town of Ossining's Louis Engle Park, Ryder Park, Cedar Lane Park, Gerlach Park, and bird sanctuary; Village of Ossining's Crawbuckie Park, Henry Gourdine Park, and Reservoir Park; and Village of Briarcliff Manor's Law Park. Trail systems, including North County Trail (Westchester County/New York State) and Old

Croton Aqueduct Trail (New York State) are also important environmental assets. Two parks outside of the four municipalities were identified as important to residents: Croton Point Park in the Village of Croton-on-Hudson, owned by Westchester County, and Rockefeller State Park Preserve in Mount Pleasant, owned by New York State. Privately-owned parks and open spaces are also valuable, including Teatown Lake Reservation and Highview Farms.

There were seven major areas of concern related to **infrastructural assets**:

- **Transportation and commuter corridors, both roads and rails.** These included Metro-North Railroad and train stations in Ossining, Scarborough, and Chappaqua. Numerous roads were also identified, including Westerly Road, North State Road, Route 9, Route 9A, Route 133, Route 134, Route 117, the Saw Mill River Parkway, and the Taconic State Parkway. The Bee-Line Bus system was also highlighted as significant public transportation, along with the Metropolitan Transportation Authority (MTA) ferry on the Hudson River.
- **Drinking water sources, treatment, and distribution,** including the Village of Ossining's Indian Brook reservoir and water treatment plant and the Town of New Castle's Millwood Water Treatment Plant. Water mains and pump stations were also listed.
- **Wastewater collection and treatment,** including the sewage treatment plant in the Village of Ossining (owned by Westchester County), sewer lines, pump stations, and manhole covers.
- **Sing Sing Prison and Museum**, which are owned by New York State in the Village of Ossining and vulnerable to Hudson River flooding.
- **Community-owned facilities** such as Department of Public Works facilities and gas stations; town halls for the Town/Village of Ossining, Town of New Castle, and Village of Briarcliff Manor; community centers; and schools.

Figure 4. Participants discussed a wide array of community assets during the workshop, and most were associated with infrastructure elements. © E. Vail, HRWA 2020.

There were three major areas of concern related to **social assets**:

- **Agencies and organizations**, especially those that that support vulnerable populations. These include Open Door Community Health Center, assisted living facilities and senior centers, Interfaith Council for Action (IFCA) Housing Network in Ossining, Neighbors Link in Ossining and Mount Kisco, community centers, Boys and Girls Club, Ossining Safety Net Organizations, churches/places of worship/Briarcliff-Ossining Ministerial Association (BOMA), and nursery schools/childcare facilities.
- **Marinas and yacht, boat, and canoe clubs**, which are privately-owned and located along the Hudson River.

- **Hospitals and emergency shelters**, including Phelps Hospital in Sleepy Hollow, Northern Westchester Hospital in Mount Kisco, Open Door medical facilities, ambulance services in Village of Ossining and Village of Briarcliff Manor, and emergency shelters in all municipalities, including heating/cooling shelters.
- **First responders and associated facilities,** including emergency services and fire departments.
- **Emergency planning and communications,** such as email and text alert systems, the Office of Emergency Management that are in each community, and emergency action plans for critical facilities like drinking water treatment plants.

Current Vulnerabilities

Most of the environmental assets identified by workshop participants were characterized as strengths that are vulnerable to the three hazard categories of sea level rise/storm surge, inland flooding, and drought. Environmental assets capture community elements such as water resources, open space, and other ecosystem services. In some instances, these resources are also vulnerable to damage from flood waters and storm surge with increasing storm frequency and intensity, and potential susceptibility to drought and wildfires. Several waterbodies were identified as vulnerable to inland flooding impacts, including build-up of debris. These include the Croton River and Reservoir, Sparta Brook, Hudson River and its waterfront/shoreline, Sing Sing Kill, Pocantico River, and Indian Brook. While dams that impound water can be designed to reduce flooding, many are vulnerable to flooding. Minkel Dam and Indian Brook Reservoir's dam were both highlighted as particularly vulnerable, and conditions at those sites should be assessed. Waterfront parks are particularly vulnerable to Hudson River flooding, including storm surge and future sea level rise. Those include Louis Engle Park, Henry Gourdine Park, Crawbuckie Trail Park, Croton Point Park (which is in Croton-on-Hudson but used by residents of these four municipalities) and Law Park, among others.

There were many public infrastructure assets identified as vulnerabilities in these municipalities, particularly around rail and road infrastructure. Along the Hudson River, Metro-North rail lines are vulnerable to coastal flooding. Along with the tracks themselves are the commuter train stations, parking lots, and surrounding/support businesses that are adjacent to the stations. Vulnerable highway and road infrastructure include Route 9, 9A, Saw Mill River Parkway, Taconic Parkway, Route 100, Route 113, Route 114, and Route 117. Manhole covers and street trees can also add vulnerability to roadways during extreme weather events. Drinking water supplies and related infrastructure are vulnerable strengths. These included Indian Brook Reservoir, treatment plants, distribution lines (which can be subject to breaks), and pump stations. Wastewater collection and treatment, including the sewage treatment plant in the Village of Ossining, pump stations, and sewer lines were also vulnerable strengths. The Sing Sing Prison and Sing Sing Prison Museum are located along the Hudson River, and vulnerable to coastal flooding.

Social vulnerabilities include vulnerable populations and facilities that serve both the young and older residents. These include assisted living facilities, senior centers, childcare facilities, and church-based nursery schools. Marinas and boat clubs located on the Hudson River, such as Westerly Marina, are vulnerable to coastal flooding. Riverfront businesses, while privately-owned, are also significant community assets that are vulnerable to flooding and future sea level rise.

Current Strengths

Many environmental assets serve as both vulnerabilities and strengths, but the greatest strengths among the environmental assets are associated with open space. Parks and trails including North County Trail, Old Croton Aqueduct Trail, Cedar Lane Park, Ryder Park, Rockefeller State Park, Audubon Preserves, and Teatown Lake Preserve need maintenance to continue to be strong community assets. Wetlands and headwater streams, such as those found at Highview Farms and in the Croton Watershed, need protection to continue to provide key ecosystem services. Forested areas and street trees help improve resiliency, while also requiring active management.

Figure 5. The participating municipalities represent a complex network of environmental, infrastructure, and social assets. Many of these important assets were identified during the workshop. E. Vail, HRWA © 2020.

While there were many infrastructure assets that were identified as vulnerable or vulnerable strengths, several were also identified as strengths. First responder facilities, such as fire, police, EMT, and hospitals, were all identified as community strengths. Department of Public Works facilities and associated gas stations are also community strengths. Town and village halls for all four municipalities are strengths that serve as operations centers in case of an emergency. Key components of drinking water infrastructure were also strengths. The Millwood water treatment plant, which serves the Town of New Castle, is a strength that should be maintained. The Indian Brook water treatment plant, owned by the Village of Ossining, will be rebuilt in 2021. Indian Brook Reservoir is a strength, though source water protection efforts will be important to maintain it.

There were more assets identified as strengths in the social category than any other, indicators of an integrated community network of private and public resources. These include emergency management and planning, such as shelters, communication via alert systems (both local and county systems), and Village of Ossining's Neighbors Link. Each municipality has its own Office of Emergency Management, which is a considerable community strength.

Support agencies, organizations, and programs include the Boys and Girls Club, churches and places of workshop, community centers, and senior centers. There has also been positive engagement with business communities, including Club Fit for showers, grocery stores and Feed Westchester, and farmers markets.

Top Recommendations to Improve Resilience

Highest Environmental Priorities:

The highest environmental priorities included protecting waterbodies, wetlands, and open space.

- The Hudson River and its waterfront are key community assets. The Town and Village of Ossining participated in Cornell University's Climate-adaptive Design Studio in 2019, and that process generated several ideas for protecting or adapting the shoreline over the long-term. In the shorter term, soft shoreline development, evacuation plans, and boating rules should be established.
- The Croton River is in Croton, Ossining, and New Castle. Croton Reservoir is managed by NYC Department of Environmental Protection as a drinking water source. For both the Croton River and Reservoir, there is a need for better cross-river interaction to create dialogue about management. Suggested actions to improve the Croton River include increasing riparian buffers through Trees for Tribs or other initiatives to shade streams, right-sizing culverts that could contribute to flooding, and daylighting portions of streams that have been buried. Considerations for heat and drought include controlling the use of fertilizers and pesticides to reduce the risk of harmful algal blooms(HABs) forming.
- The Indian Brook Reservoir and its watershed, in the Town of Ossining and Town of New Castle, provides drinking water for the Village of Ossining. This source watershed is considered vulnerable, and needs to be protected against development. An intermunicipal source water plan should be considered/updated, along with intermunicipal regulations and zoning updates. Coordinating with watershed groups and alliances could also support this resource. Preventing Harmful Algal Blooms (HABs) on the reservoir is high priority, and HABs monitoring is an ongoing action. Regulations related to livestock (such as chickens) and law chemicals should be considered. Protecting or restoring riparian buffers along streams in the watershed, through Trees for Tribs or other initiatives, would help with shading and improving water quality. The Indian Brook Reservoir's dam is susceptible to over-topping and flooding, and upgrades should be assessed.
- Sing Sing Kill in the Village of Ossining is vulnerable to flooding. A recent culvert study indicated that the Metro North culvert in the right-of-way needs to be upsized to pass larger storms. Consider stream restoration through natural channel design and debris management. Improve riparian buffers through Trees for Tribs or other initiatives, right-size other problem culverts, and daylight portions of the stream that have been buried.

- Sparta Brook in Briarcliff Manor and Ossining is another small stream that is vulnerable to flooding. Promote riparian buffers, and work with New York City and local municipalities to update its watershed plan.
- Minkle Dam in New Castle and Ossining is vulnerable to flooding and should be examined for decommissioning.
- The Pocantico River has also contributed to inland flooding issues, including sites at North State Road in Briarcliff Manor and Gory Brook Road in Sleepy Hollow. North State Road includes the business district in the Town of Ossining, and wetlands here should be protected/maintained. Support the Pocantico River Watershed Alliance to create dialogue, coordinate among the various groups that are concerned, and identify short-term actions for implementation. Natural resources inventories or updating zoning can be useful tools to plan for and protect water resources. Consider restoration opportunities, including natural stream channel design, stormwater management practices like green infrastructure, daylighting for portions of streams that have been buried, right-sizing culverts that are undersized and contributing to flooding problems, protecting or improving riparian buffers through Trees for Tribs or other initiatives, and planting trees and shrubs to adapt to heat/drought conditions. Planning should also be undertaken to understand water flows in the system.
- Saw Mill River and the parkway that runs along it are vulnerable to flooding. Evaluate road elevations, review grading, and consider improving riparian buffers.
- Wetlands in all four municipalities are vulnerable strengths. Implementing Natural Resources Inventories and Open Space Plans to identify and protect these natural resources was an action for all municipalities, and a short-term action for the Village of Ossining. Current legislation may not be sufficient for wetland protection.
- For all four municipalities, inventory green infrastructure opportunities and implement practices, particularly connected roads and riparian areas. Comprehensive planning is an important tool for local planning, and a short-term action for the Village of Ossining in particular.

Highest Infrastructural Priorities:

Infrastructural assets included Sing Sing Prison, railroads, roads and highways, drinking water infrastructure, wastewater infrastructure, and municipal facilities. The highest priorities in all areas of concern include the following:

- Sing Sing Prison and its Museum in the Village of Ossining is owned by New York State and vulnerable to coastal flooding. In the long term, buildings may need to be relocated to higher ground and out of floodplains. In the short term, there should be an agreement to move inmates during emergencies. During times of drought, ensure there are water conservation efforts and sufficient water supply at the prison.
- Metro-North Railroad has two lines that serve these municipalities: the Hudson Line along the Hudson River and the Harlem Line that is located inland. The Hudson Line goes through Ossining and Briarcliff, and includes train stations in Ossining and Scarborough. As little as one inch of rain can currently cause flooding, especially at locations where the rail lines cross streams. Rail infrastructure is also vulnerable to

storm surge, sea level rise, and projected higher rainfall. In the short term, create a coalition to Hudson River towns to work with MTA to address climate change impacts to rail infrastructure. Relocating these assets will be very challenging, and elevation or protection will need to be considered. A comprehensive plan for adapting rail infrastructure is needed for the long term, and should consider Climate-adaptive Design study recommendations. The train stations' parking lots are owned by the municipalities, and may need to be elevated or made resilient to flooding. Stormwater management in and around the parking lots should also be improved. Modify culverts and bridges where streams pass under rail lines to convey water from larger storms. Review existing building codes to adapt to projected increases in rainfall.

- In addition to commuter rail, maintain other public transit. This includes the Bee-Line Bus, which is owned by Westchester County and serves multiple communities, and MTA's water taxi on the Hudson River.
- Westerly Road in the Village of Ossining is adjacent to the Ossining train station and vulnerable to coastal flooding. Harbor Square is a privately-owned development that is also vulnerable. In the short term, consider zoning changes based on the Village of Ossining's updated comprehensive plan.
- Several roads and highways will need to have evacuation plans/routes and assessments of their stormwater infrastructure. Addressing flood risks on Route 9 and Route 9A, which are owned by New York State, may require a coalition to engage the Department of Transportation. This is also the case for Route 133, Route 134, Saw Mill River Parkway, and Taconic State Parkway.
- North State Road, which includes a business district in the Town of Ossining, is vulnerable to inland flooding. There may be an opportunity to use Ryder Park to for stormwater retention.
- Wastewater infrastructure was identified as vulnerable, and high priority. The sewage treatment plant in the Village of Ossining is owned by Westchester County. Located along the Hudson River, it is vulnerable to coastal flooding and wet weather due to inflow and infiltration (I/I) issues. Research potential technologies to improve wastewater treatment and resilience. Plant capacity may need to be expanded to handle larger volumes of wastewater, or stormwater due to I/I. Create a plan to reduce stormwater connections to the wastewater facility, and improve stormwater management through practices like green infrastructure. The facility itself may require hardening infrastructure to protect it from flooding. Municipalities own the sanitary sewer lines, many of which are gravity-fed. There are also several pump stations throughout the municipalities, and resilience should be evaluated at these facilities to develop a plan for action.
- The Village of Ossining's Indian Brook water treatment plant is in the Town of Ossining, and provides back up drinking water supplies to Tarrytown and Sleepy Hollow. A new facility is being built, planned for 2021. Safer treatment can be complicated by temperatures and bacteria. In the short term, consider an intermunicipal council to plan for source water protection, including the drinking water supply and its watershed. The Indian Brook Reservoir's dam needs an emergency action plan. In case of heat or drought, conduct outreach on water conservation to reduce water use.

- The Millwood water treatment plant, owned by New Castle, is a strength that should be maintained.
- Pump and lift systems for both drinking water and wastewater need back-up generator systems to ensure that they function during power outages. This action was specifically highlighted for the Village of Briarcliff Manor. Pump stations need ongoing maintenance to ensure that they function correctly. Vulnerable pump and lift systems should be protected against flooding, especially to avoid water main breaks.

Figure 6. Participants were asked to locate assets on a map of the region which encouraged discussions about interactions between assets, future scenarios, and possible solutions. E. Vail, HRWA © 2020.

- Culverts in all four municipalities should be assessed and prioritized for right-sizing to target specific problem sites. This is an ongoing action.
- There are multiple fire stations and headquarters throughout the four municipalities. Update emergency plans and mutual aid agreements and investigate V.O.A.D. (Voluntary Organizations Active in Disaster) as a short-term action. Town of Ossining and Village of Ossining Office of Emergency Management meetings are held monthly. Alert residents in case of emergency by text or email.
- Phelps Hospital in Sleepy Hollow is privately owned (Northwell Health) and a strength. In the short term, ensure that community members are aware of this resource.
- The Con Edison Substation next to the Ossining train station is vulnerable to coastal flooding. In the short term, relocate or harden to protect facility.
- Sunshine Children's Home & Rehabilitation Center in New Castle is privately-owned, and a vulnerable strength. In the short term, ensure that there is a plan for relocation of children in case of an emergency.
- Include downtown, commercial, and business districts in comprehensive plan updates as a short-term action.
- Department of Public Works (DPW) facilities are owned by municipalities and community strengths. Evaluate resilience at each facility, including DPW gas stations, and ensure that they all have back-up power generators. For the gas stations, ensure that county and state agreements are in place. The Village of Ossining's DPW site includes the Sing Sing Kill. This site would also benefit from proactive planning for future events, such as a plan to empty out garages and improved stormwater management.

Highest Social Priorities:

Actions related to social assets were associated with support institutions, emergency communication and management facilities, and communications. The following represent the highest priorities identified by workshop participants:

- There are at least nine assisted living and senior housing facilities in the four municipalities, including eight in Ossining and one in new Castle. Establish emergency evacuation plans (Building Resilience Against Climate Effects (BRACE) framework) and places for residents to go during extreme events. For senior residents that are not in assisted living, ensure that they are connected with county resources. Work with property managers and neighbor-to-neighbor programs to make sure they have support, and use mailing and outreach to share available resources.
- Open Door Community Health Center has locations in multiple communities, and serves as a strength. In the short term, expand to help make mental health connections and provide information and resources to vulnerable populations.
- Neighbors Link in Ossining and Mount Kisco is also an important community resource. In the short term, expand to help make mental health connections and provide information and resources to vulnerable populations.
- Gas stations overall are a strength, though facilities in the Village of Briarcliff Manor were highlighted as vulnerable. Ensure that they have greater redundancies in case of extreme weather events.
- Marinas and boat clubs along the Hudson River are vulnerable to coastal flooding. These are privately-owned, including one that is within a private park, and in the Village of Ossining. In association with any long-term plans for the railroad, such as elevating tracks, develop plans to elevate or migrate inland with sea level rise. During a flood event, secure or remove boats, and shut down the nearby pump station.
- Increase awareness of existing communications systems in the short term, including email and text alerts. As these are currently only available in English, consider expanding to include other languages to reach more people.

Medium Environmental Priorities:

- Maintain and protect Teatown Nature Preserve to maintain the health of the watershed.
- Louis Engle Park and Henry Gourdine Park are located adjacent to the Hudson River in the Village of Ossining and vulnerable to flooding. Look into making both into passive parks with the ability to flood; there might be short, long, and ongoing opportunities. During an extreme event or flood, ensure evacuation. This includes shutting down bathrooms and pulling out docks. During drought in Louis Engle Park shut down the spray park, and during drought in Henry Gourdine Park, shut down the sprinkler and bathroom.
- Cedar Lane Park in the Town of Ossining is a strength. Conduct ongoing maintenance, especially to sure the pond's ability to retain stormwater.

- Inland parks in all four municipalities may require strategic plans for mitigation to climate change, in the short-term and on an ongoing basis. Parks have some vulnerability, but also serve as strengths.

Medium Infrastructural Priorities:

- The train station in Chappaqua, part of the Metro North Railroad's Harlem Line, is a strength, but vulnerability should be assessed. If the Hudson Line along the Hudson River is closed, the Harlem Line can be used by commuters to get to New York City. In the long term, coordinate with Metro North to efficiently transport Hudson Line riders to the Harlem Line, such as providing buses.
- Evaluate stormwater management and evacuation route planning for Route 100, which is owned by New York State and identified as a vulnerable strength.
- Waverly Marina in the Village of Ossining is privately-owned, and vulnerable to coastal flooding from the Hudson River and inland flooding from the Sing Sing Kill. Evaluate flood risk from both coastal and inland flooding and plan for future conditions.
- The four municipalities have three town halls, with the Ossining Town and Village sharing one building. Ensure that they have back up emergency supplies in case of an extreme event, and that they have ongoing maintenance. In New Castle, test a new storm management system.
- Community centers in these municipalities should have updated and modernized emergency sheltering plans. Overall, these facilities are community strengths.
- Evaluate and upgrade stormwater management, especially through the MS4 (Municipal Separate Storm Sewer System) program. Consider stormwater in comprehensive planning.
- Address inland flooding associated with the Lower Minkel Dam in the Town of Ossining, especially on Routes 124 and 9A.
- Evaluate and strengthen stormwater protection at privately-owned gas stations. Ensure they have back-up power generators.
- Indian Point Energy Center is a privately-owned nuclear power facility in Peekskill that was identified as a vulnerable strength. It is scheduled to be decommissioned starting in 2020.

Medium Social Priorities:

- Churches and other places of worship, including groups like Briarcliff-Ossining Ministerial Association (BOMA), are community strengths in all four municipalities. Conduct outreach with vulnerable populations, expand information and resources available for mental health, coordinate with emergency workers, and share information pre- and post-emergency.
- Update Westchester County's plans and communicate with the public about resources offered by the county. Increase public education and awareness to take advantage of these resources.
- Community centers in the four municipalities are strengths and provide important services. Offer programs focused on community resilience and keep resources available in case of emergency.

- Town halls serve as operations centers during emergencies. Ensure that these buildings have working back-up power generators to keep them operational. In case of heat or drought, undertake water conservation efforts.
- Work with school districts to maintain schools and their infrastructure so they continue to be strengths.
- Boys and Girls Club based in Mount Kisco is a community strength. Work with them to conduct outreach with vulnerable populations, expand information and resources available for mental health, coordinate with emergency workers, and share information pre- and post-emergency.
- Libraries throughout the four municipalities can be used as assembly areas in case of an emergency. Maintain these important facilities and ensure that water conservation measures are in place in case of drought.

Other actions were identified related to the municipal assets but were deemed low priority and therefore are not included in this report.

E.Vail, HRWA © 2020

WORKSHOP PARTICIPANTS

First Name	Last Name	Municipality/Affiliation	Title
Tom	Boland	Village of Ossining	Environmental Advisory Council
Victoria	Cafarelli	Town of Ossining	Confidential Secretary, Budget Officer
Pete	Connolly	Town of Ossining	Highway Superintendent
Dennis	Corelli	Town of New Castle	Environmental Coordinator
Karen	D'Attore	Village of Ossining	Village Administrator
Mitzi	Elkes	Town of Ossining	Environmental Advisory Committee Chair
Dale	Ferreira	Village of Ossining	Deputy Village Treasurer
Michael	Finewood	Pace University/Hudson River Watershed Alliance	
Paul	Fraioli	Village of Ossining	Engineer
Nick	Franzoso	Town of Ossining	Chief – Ossining Volunteer Ambulance Corps
Victoria	Gearity	Village of Ossining	Mayor
Fernando	Gonzalez	Town of Ossining	Town Assessor
Jaimie	Hoffman	Village of Ossining	Project Manager
Kevin	Hunt	Village of Briarcliff Manor	
Dana	Levenberg	Town of Ossining	Supervisor
Ivy	Pool	Town of New Castle	Supervisor
Kate	Schlott	Village of Ossining	Environmental Advisory Council
Donna	Sharrett	Town of Ossining	Town Planning Board Member
Mario	Velardo	Town of Ossining	Town Parks Foreman
Maddie	Zachacz	Village of Ossining	Assistant Village Manager
Philip	Zegarelli	Village of Briarcliff Manor	Village Manager

WORKSHOP FACILITATION TEAM

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Andrew Peck, The Nature Conservancy (Project Lead)
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ACKNOWLEDGMENTS

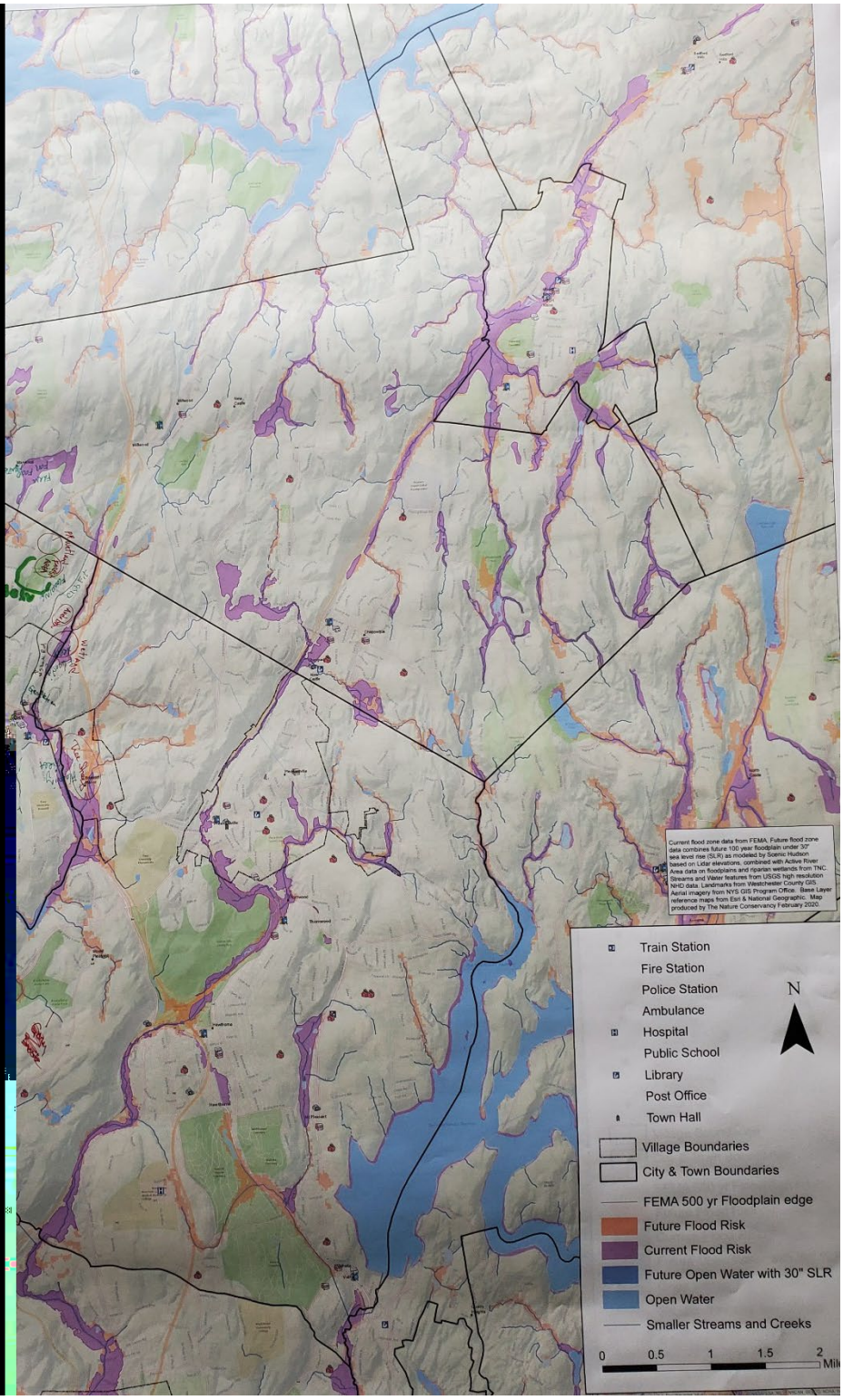
Special thanks to the Village of Ossining, Town of Ossining, Village of Briarcliff Manor, and Town of New Castle for their willingness to embrace this process, and to the Ossining Fire Department for providing the facilities to convene the group.

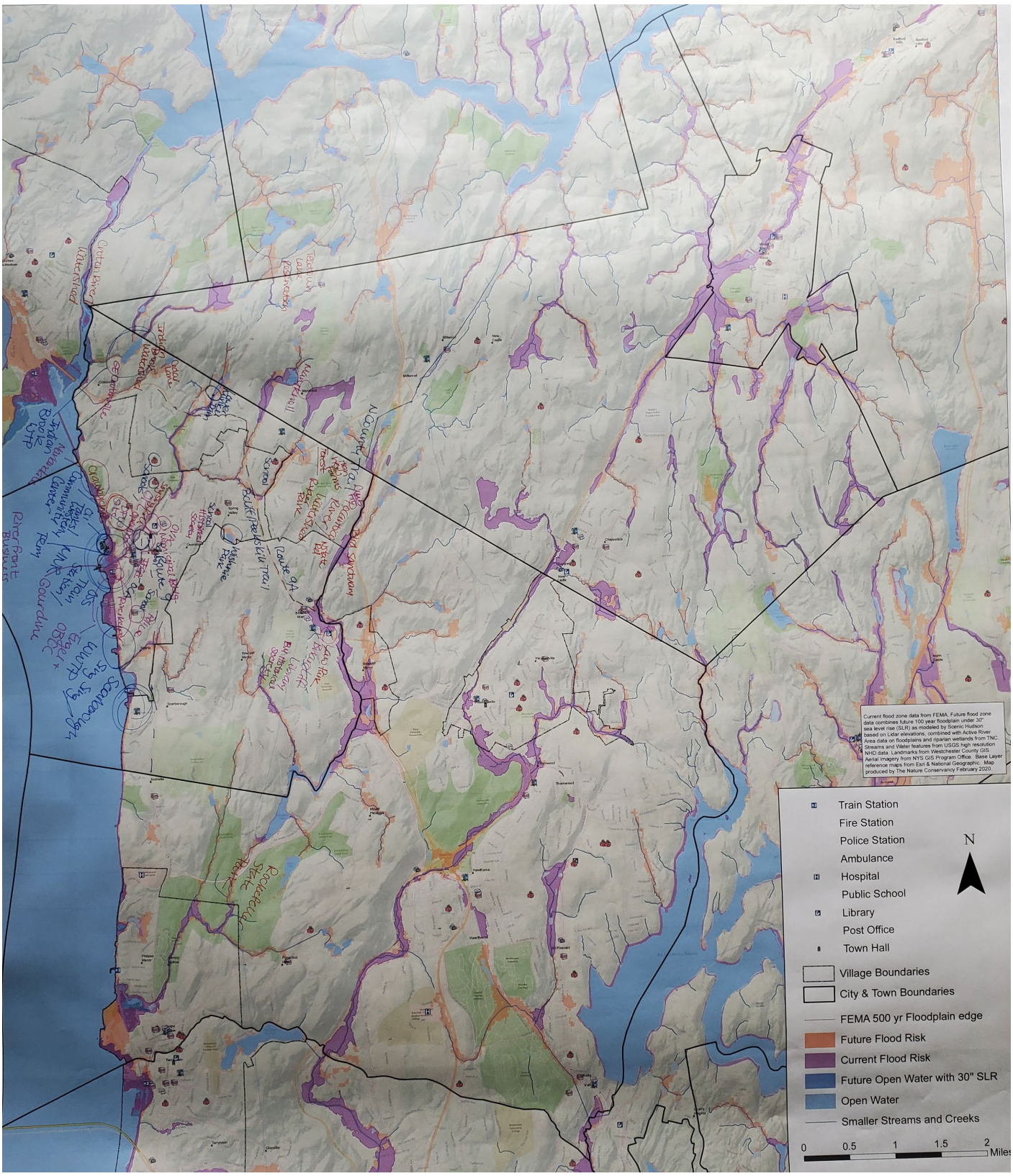
This Project has been funded in part by a grant from the New York State Environmental Protection Fund through the Hudson River Estuary Program of the New York State Department of Environmental Conservation.

RECOMMENDED REPORT CITATION

Vail, E. and A. Peck. 2020. Town and Village of Ossining, Village of Briarcliff Manor and Town of New Castle Community Resilience Building Workshop: Summary of Findings. Hudson River Watershed Alliance and The Nature Conservancy.

APPENDIX I: CRB Workshop Asset Identification Maps




Current flood zone data from FEMA. Future flood zone data combines future 100 year floodplain under 30" sea level rise (SLR) as modeled by Scenic Hudson based on Lidar elevations, combined with Active River Area data on floodplains and riparian wetlands from TNC. Streams and Water features from USGS high resolution NHD data. Landmarks from Westchester County GIS. Aerial imagery from NYS GIS Program Office. Base Layer reference maps from Esri & National Geographic. Map produced by The Nature Conservancy February 2020.
Train Station
Fire Station
Police Station
Ambulance
Hospital
Public School
Library
Post Office
Town Hall
Village Boundaries
City & Town Boundaries
FEMA 500 yr Floodplain edge
Future Flood Risk
Current Flood Risk
Future Open Water with 30" SLR
Open Water
Smaller Streams and Creeks
N
0
0.5
1
1.5
2
Miles

APPENDIX 2: State and Federal Resources

FINANCING WATERFRONT RESILIENCE

2019 New York State and federal resources for communities

New York State and federal agencies offer over $150 million in assistance to municipalities and non-profit organizations to build waterfront resilience and adapt to flooding, sea-level rise and other climate risks. This document provides an overview of these assistance programs, how to apply and local examples, ***with a focus on the Hudson Valley region***. Eligible activities include municipal planning, resilient infrastructure and structures, emergency management, economic revitalization, public outreach, and natural solutions like sustainable shorelines, green infrastructure and floodplain protection. A summary table of all resources, organized by agency, areas of assistance, funding amounts and deadlines, can be found at the end of this document. Sign up for our Climate Resilience newsletter to receive the latest funding announcements. Programs covered in this document are:

- **NYS Department of Environmental Conservation (DEC):** Hudson River Estuary Stewardship Planning Grants, Climate Smart Communities Grants, Water Quality Improvements Program, Non-Agricultural Nonpoint Source Planning Grant and Trees for Tribs
- **Department of State (DOS):** Local Waterfront Revitalization Program and Brownfield Opportunity Area
- **Environmental Facilities Corporation (EFC):** Green Innovation Grant Program, Wastewater Infrastructure Engineering Planning, Clean Water and Drinking Water Revolving State Funds
- **Federal Emergency Management Agency (FEMA):** Hazard Mitigation Assistance, Public Assistance and Community Rating System
- **Additional assistance programs**
    - **New York State Energy Research and Development Authority (NYSERDA):** Clean Energy Communities Program
    - **NYS Office of Parks, Recreation and Historic Preservation (OPRHP):** Parks, Preservation and Heritage Grants and Recreational Trails Grants
    - **US Housing and Urban Development (HUD)** Community Block Grant Program
    - **Empire State Development (ESD)** Grant Program
    - **Hudson River Greenway** Communities Grant Program
    - **Open Space Funding Options**

View of flooded road in Stony Point following Hurricane Sandy in 2012 (L. Konopko)

LOCAL EXAMPLE: CONSOLIDATED FUNDING APPLICATION

Kingston received a $1.2 million grant for a public-private intermunicipal partnership to design and build a one mile promenade along the Hudson River. The promenade will feature green infrastructure and offer public access and recreation and keep open space along the waterfront. The funds were awarded from the Department of State's Local Waterfront Revitalization Program through a CFA application.

NYS Consolidated Funding Application

New York State's Consolidated Funding Application (CFA) allows communities to design comprehensive projects and with one application, apply to multiple state funding sources. Communities may not apply to federal programs such as FEMA through the CFA. You can download the 2019 CFA Available Resources (PDF) online.

Overview of Financial Assistance Programs

Below is a summary of financial assistance programs identified by their funding categories related to flood resilience.

- Municipal planning
- Public outreach
- Resilient infrastructure
- Economic revitalization
- Emergency management
- Natural solutions (e.g., sustainable shorelines, green infrastructure + floodplain protection)

☑CFA = grants included in the NYS Consolidated Funding Application

New York State Department of Environmental Conservation (NYS DEC)

The NYS DEC is a state agency focused on the conservation, enhancement, and enjoyment of environmental resources.

Hudson River Estuary Program Local Stewardship Planning Grant

The Estuary Program provides funding ($350,000) to help communities and local organizations advance four categories of local projects and programs through planning, feasibility studies, and/or design. Award amounts range from $10,500 to $50,000 with 15% match required. All prospective applicants must register in advance in the New York State Grants Gateway where they can also search and download the full RFA by searching for 'Hudson River Estuary.' Funding for the grants is provided by the New York State Environmental Protection Fund (EPF). Eligible planning categories:

- Adapt land uses and decision-making to factor in climate change, flooding, heat, drought, and sea-level rise projections in Hudson River shoreline communities
- Improve water infrastructure to make it more resilient to flooding and/or sea-level rise
- Create a natural resources inventory, open space inventory/index, open space plan, open space funding feasibility study, conservation overlay zone, or connectivity plan
- Develop a watershed and/or source water management plan

Contact: HREPGrants@dec.ny.gov

Deadline: 3:00 pm, July 10, 2019

LOCAL EXAMPLE: LOCAL STEWARDSHIP PLANNING GRANT

The Village of Catskill received $68,000 in Local Stewardship grants in 2016 to analyze their wastewater treatment plant and zoning codes to look for opportunities to address flooding and sea-level rise.

Climate Smart Communities (CSC) Grants

The Climate Smart Community (CSC) program offers grants ($11.7M) to support municipal projects that implement certain CSC actions and help them become certified in the program. 50% match required.

Adaptation implementation projects fund $10,000 and $2 million and include, but are not limited to the following:

- Increasing or preserving natural resilience, such as construction of living shorelines and other nature-based landscape features to decrease vulnerability to the effects of climate change and to improve or facilitate conservation, management, and/or restoration of natural floodplain areas and/or wetland systems.
- Flood-risk reduction, including, but not limited to, strategic relocation or retrofit of climate-vulnerable critical municipal facilities or infrastructure to reduce future climate-change induced risks to those facilities.
- Replacing or right-sizing flow barriers, including, but not limited to, right-sizing bridges or culverts, or improving flow barriers to facilitate emergency response or protection of population centers, critical facilities, infrastructure, and/or natural resources, based on assessment of projected future conditions.
- Extreme-heat preparation, including, but not limited to, establishment of cooling centers, construction of permanent shade structures, and implementation of other cooling features or programs.
- Emergency preparedness, including, but not limited to, establishment of emergency warning systems or implementation of emergency preparedness and/or response programs (excluding radio communications).

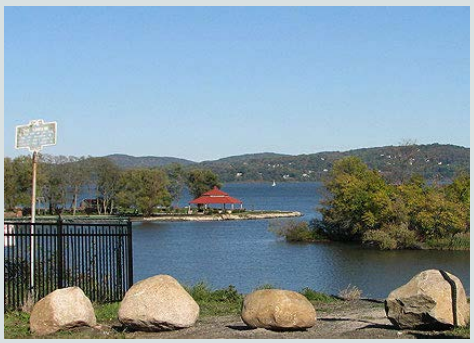
Certification projects fund $10,000 to $100,000 to complete the following and additional actions:

- PE2 Action: Government Operations Climate Action Plan
- PE2 Action: Community Climate Action Plan
- PE6 Action: Comprehensive Plan with Sustainability Elements
- PE6 Action: Complete Streets Policy
- PE6 Action: Planning and Infrastructure for Bicycling and Walking (planning only)
- PE6 Action: Natural Resources Inventory
- PE7 Action: Climate Vulnerability Assessment
- PE7 Action: Climate-Smart Resiliency Planning
- PE7 Action: Climate Adaptation Strategies
- PE7 Action: Heat Emergency Plan

Contact: Climatechange@dec.ny.gov, 518-402-8448

Deadline: 4:00 pm, July 26, 2019, ☑CFA

LOCAL EXAMPLE: CLIMATE SMART COMMUNITIES GRANT



The Village of Haverstraw received a $100,000 Climate Smart Communities grant in 2018 to update and incorporate climate resilience into their Comprehensive Plan.

Water Quality Improvement Project (WQIP)

The WQIP program ($70M) is a competitive, reimbursement grant program that directs funds from the New York State Environmental Protection Fund to projects that reduce polluted runoff, improve water quality and restore habitat in New York's waterbodies. Eligible activities include:

- **Wastewater Treatment Improvement**, $1-10M max award depending on project type, 25% match for high priority projects, or 60% for secondary priority projects, contact Robert Wither, (518) 402-8123, Robert.Wither@dec.ny.gov

    - Wastewater Effluent Disinfection, $1M max award, 25% match
    - Projects to upgrade municipal systems to meet discharge requirements for Combined Sewer Overflow (CSO) or Sanitary Sewer Overflow (SSO), $5-10M max award, 25% match
    - Watershed Plan Implementation, $5-10M max award, 25% match
    - Municipal Systems to Serve Multiple Properties with Inadequate On-site Septic Systems, $5-10M max award, 25% match
    - Other Wastewater Treatment Improvements, $5-10M max award, 60% match
- **Non-Agricultural Nonpoint Source Abatement and Control**, $500,000-$3M max award depending on project type, 25% match, see contacts by project type:
    - Decentralized Wastewater Treatment Facilities for Failing On-Site Treatment Systems, $3M max award, 25% match, contact Ken Kosinski, (518) 402-8086, Ken.Kosinski@dec.ny.gov
    - Green Infrastructure Practice and Stormwater Retrofits, $1M max award, 25% match, contact Ryan Waldron, (518) 402-8244, Ryan.Waldron@dec.ny.gov
    - Streambank Stabilization and Riparian Buffers, $1M max award, 25% match, contact Lauren Townley, (518)402-8283, Lauren.Townley@dec.ny.gov
    - Beach Restoration, $1M max award, 25% match, contact Karen Stainbrook, (518) 402-8095
    - Culvert Repair and Replacement, $1M max award, 25% match, contact Lauren Townley, (518) 402-8283, Lauren.Townley@dec.ny.gov
- **Aquatic Connectivity Restoration**, $250,000 max award, 25% match, contact Corbin Gosier, 518-402-8872, Corbin.Gosier@dec.ny.gov
- **Land Acquisition for Source Water Protection**, $4M max award, 25% match, contact Kristin Martinez, (518) 402-8086, Kristin.Martinez@dec.ny.gov
- **Municipal Separate Storm Sewer Systems (MS4s)**, $500,000-600,000 max award depending on project type, 25% match, contact Ethan Sullivan, (518) 402-1382, Ethan.Sullivan@dec.ny.gov
    - Mapping of stormwater systems, $500,000 max award, 25% match
    - Vacuum truck purchase, $600,000 max award, 25% match

Contact: User.Water@dec.ny.gov

Deadline**:** 4:00 pm, July 26, 2019, ☑CFA

Non-Agricultural Nonpoint Source Planning Grant Program

The DEC will fund planning ($1M) for decentralized wastewater treatment facilities, green infrastructure practice/stormwater retrofits, streambank stabilization, beach restoration and culvert repair and replacement. $30,000 award maximum, 10% match.

Contact: Lauren Townley, 518-402-8283, Lauren.Townley@dec.ny.gov

Deadline**:** 4:00 pm, July 26, 2019, ☑CFA

Trees for Tribs

Do you own or manage land along a stream? You can apply for free native plants to help reduce erosion and improve habitat along your stream! The Hudson Estuary Trees for Tribs Program offers free native trees and shrubs for planting along the tributary streams in the Hudson River Estuary watershed. Our staff can help you with a planting plan and work with your volunteers.

Contact: Beth Roessler, NYS DEC, 845-256-2253, HudsonEstuaryTFT@dec.ny.gov

Deadline: Apply by March 1, 2019 for Spring plantings, August 1, 2019 for Fall plantings

Department of State (DOS)

The DOS is a planning agency that focuses on economic revitalization and resilient, livable communities.

Local Waterfront Revitalization Program (LWRP)

The Local Waterfront Revitalization Program (LWRP) provides technical assistance and grants ($15M) on a reimbursement basis to villages, towns, cities, and counties located along New York's coasts or designated inland waterways, to prepare or implement strategies for community and waterfront revitalization. Funds require a 25% match (15% for environmental justice communities) and the grant categories currently are:

- Preparing or updating a Local Waterfront Revitalization Program (LWRP)
- Preparing an LWRP Component, including a Watershed Management Plan
- Updating an LWRP to Mitigate Future Physical Climate Risks
- Implementing a Local Waterfront Revitalization Program or a completed LWRP Component

Contact: NYS DOS, Office of Planning, Development & Community Infrastructure, opd@dos.ny.gov

Deadline: 4:00 pm, July 26, 2019, ☑CFA

LOCAL EXAMPLE: LOCAL WATERFRONT REVITALIZATION PROGRAM

The Village of Piermont received a $35,000 grant in 2015 to update its Local Waterfront Revitalization Plan, first written in 1992, to include strategies from the Task Force's final Resilience Roadmap Report.

Brownfield Opportunity Area (BOA)

The Brownfield Opportunity Area (BOA) program takes a neighborhood-wide approach to contaminated lands and provides grants ($2M) that support communities to comprehensively assess existing economic and environmental conditions associated with brownfield blight and impacted areas, identify and prioritize community supported redevelopment opportunities, and attract public and private investment. Project awards up to $300,000 with 10% required match, and option to request up to 25% of funds upfront. Eligible activities are:

- BOA nomination: a study that includes a community vision, goals and strategies for revitalization of an area affected by a concentration of known or suspected brownfields
- Pre-development activities in a State-designated BOA:
    - Development and implementation of marketing strategies;
    - Development of plans and specifications;
    - Real estate services;
    - Building conditions studies;
    - Infrastructure analyses;
    - Zoning and regulatory updates;
    - Environmental, housing and economic studies, analyses and reports; and
    - Public outreach.

Contact: NYS DOS, Office of Planning, Development & Community Infrastructure, opd@dos.ny.gov

Deadline: 4:00 pm, July 26, 2019, ☑CFA

Environmental Facility Corporation (EFC)

The EFC is a state agency that assists public and private entities to comply with federal and state environmental quality standards through technical assistance, low cost financing, and green innovation grants.

Green Innovation Grant Program (GIGP)

The Green Innovation Grant Program (GIGP, $15M) funds projects across New York State that utilize unique stormwater infrastructure design and create cutting-edge green technologies. 10% to 60% match required. GIGP funds highly-visible projects that are directly attributable to the improvement or protection of water quality and integral to the success of the following specific green infrastructure practices:

- Bioretention
- Downspout disconnection
- Establishment or Restoration of Floodplains, Riparian buffers, Streams or Wetlands
- Green roofs and green walls
- Permeable pavements
- Stormwater Harvesting and Reuse, *e.g.* Rain Barrel and Cistern Projects
- Stormwater Street Trees / Urban Forestry Programs Designed to Manage Stormwater

Contact: Brian Hahn, 518-402-6924, GIGP@efc.ny.gov

Deadline: 4:00 pm, July 26, 2019, ☑CFA

Wastewater Infrastructure Engineering Planning Grant (WIEP)

The EFC, in cooperation with NYS DEC, offers WIEPG grants ($3 million) for engineering and consulting services to produce engineering reports to construct or improve municipal wastewater systems. Funding level is based on population size and the municipality must provide a 20% match. The final engineering report can be implemented using EFC or other financing sources.

- $30,000 max award for communities with a population of 50,000 or less
- $50,000 max award for communities with a population of 50,000 or more
- $100,000 max award for inflow and infiltration projects based on an Order on Consent or SPDES Permit Compliance Schedule

Contact: Susan Van Patten, NYS DEC, 518-402-8267, CFAWater@gw.dec.state.ny.us

Deadline: 4:00 pm, July 26, 2019, ☑CFA

LOCAL EXAMPLE: WASTEWATER INFRASTRUCTURE ENGINEERING PLANNING

The City of Kingston received a $25,000 grant to examine long-term adaptive planning for their wastewater treatment plant. They will implement the plan using low interest loans from the CWSRF.

Clean Water (CWSRF) and Drinking Water State Revolving Funds (DWSRF)

The EFC provides various forms of project finance for water-quality protection projects through the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF). A variety of publicly-owned water quality improvement projects are eligible for financing, including point source projects such as wastewater treatment facilities, and nonpoint source projects such as stormwater management projects and landfill closures, as well as certain habitat restoration and protection projects in national estuary program areas. Short and long-term loans are available at no interest and low interest rates. Clean Water applicants may apply for Integrated Solutions Construction grant ($8M) to support green infrastructure by funding 50% of construction costs.

Contact for Clean Water: Dwight Brown, EFC, 518-402-7396, CWSRFinfo@efc.ny.gov

Contact for Drinking Water: Michael Montysko, DOH, 518-402-7650, bpwsp@health.ny.gov

Contact for Integrated Solutions Construction grant: Dwight Brown, EFC, 518-402-7396, ISC@efc.ny.gov

Deadline: Open enrollment

Federal Emergency Management Agency (FEMA)

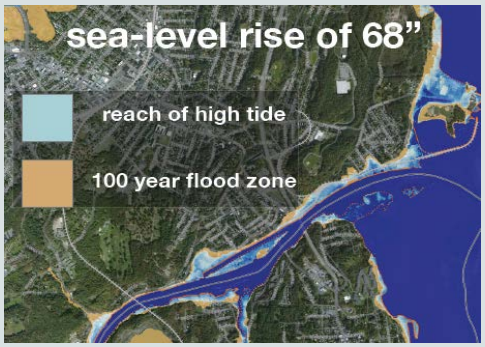
FEMA is a national agency that administers programs providing flood insurance, hazard mitigation assistance, and public assistance grants.

Hazard Mitigation Assistance

FEMA currently provide three types of hazard mitigation assistance (HMA):

- Hazard Mitigation Grant Program (HMGP) assists in implementing long-term hazard mitigation measures. HMGP funds are triggered by a declared disaster and funneled to individual municipalities through the NYS Division of Homeland Security and Emergency Services (DHSES).
- Pre-Disaster Mitigation (PDM) provides funds on an annual basis for hazard mitigation planning and projects.
- Flood Mitigation Assistance (FMA) provides funds on an annual basis for projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP).

LOCAL EXAMPLE: HAZARD MITIGATION GRANT



Kingston applied for a $5 million grant from Hurricanes Irene and Sandy Relief Funds to implement Task Force recommendations for riparian buffers, buyouts, the adaptation and fortification of infrastructure, and the purchase emergency generators for pumping stations. The City is awaiting notification of the application’s status.

Public Assistance Grant Program

Through the Public Assistance (PA) Program, FEMA provides supplemental Federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged, publicly-owned facilities, and the facilities of certain private Non-Profit (PNP) organizations. The PA Program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process. 25% match required.

Contact: FEMA grants are administered by NYS Division of Homeland Security and Emergency Services (DHSES). Visit their website for current grant opportunities: http://www.dhses.ny.gov/grants/

Community Rating System (CRS)

FEMA also administers the National Flood Insurance Program (NFIP) and the related Community Rating System (CRS), which allows municipalities to reduce flood insurance rates for all policyholders by instating community-scale projects and policies regarding flood resilience.

Contact: 317-848-2898, nfipcrs@iso.com

LOCAL EXAMPLE: COMMUNITY RATING SYSTEM

The Village of Scarsdale is Class 8 certified in the Community Rating System (CRS), which means the village residents receive a 10% discount on flood insurance. The Village of Hyde Park is currently seeking CRS certification.

New York State Energy Research and Development Authority (NYSERDA)

NYSERDA is a state authority dedicated to promoting energy efficiency and renewable energy sources.

Clean Energy Communities (CEC) Program

Municipalities that complete four of 10 priority actions will be considered Clean Energy Communities (CEC). Locally based outreach and implementation coordinators will provide free, on-demand technical assistance, including step-by-step guidance, case studies, and template contracts to help municipalities implement the Climate Smart Communities and Clean Energy Communities programs.

Contact: cec@nyserda.ny.gov or Europa McGovern, Mid-Hudson CEC Coordinator, 845-564-4075, emcgovern@hudsonvalleyrc.org

NYS Office of Parks, Recreation & Historic Preservation (OPRHP)

THE NYS OPRHP is a state agency dedicated to preserving and enhancing parks, historic assets and heritage areas.

Grant Program for Parks, Preservation and Heritage

The OPRHP is providing grants ($19.5M) for acquisition, planning, development, and improvement of parks, historic properties, and heritage areas. Project awards up to $600,000 with 50% required match, or 25% match for projects that are in a high-poverty district.

Contact: Erin Drost, (845) 889-3866, erin.drost@parks.ny.gov

Deadline: 4:00 pm, July 26, 2019, ☑CFA

Recreational Trails Program

The OPRHP is providing grants ($1.9M) for design, right-of-way and construction of recreational trails. Project awards up to $250,000 with 20% required match.

Contact: Erin Drost, (845) 889-3866, erin.drost@parks.ny.gov

Deadline: 4:00 pm, July 26, 2019, ☑CFA

LOCAL EXAMPLE: PARK DEVELOPMENT

The Village of Freeport received a $250,000 Parks grant to replace over 1,000 feet of bulkhead at Waterfront Park to reduce soil erosion and improve public safety and recreational access.

US Department of Housing and Urban Development (HUD)

HUD is a federal agency aimed to support sustainable, inclusive and affordable communities.

Community Development Block Grant Program (CDBG)

HUD is offering competitive grants ($20M) for development projects in small communities and counties.

- Resilient drinking water, clean water and stormwater infrastructure projects may be applied for under Category 1: Public Infrastructure, $750,000 max, $900,000 for joint applicants, no match required
- Construction and renovation projects may be applied for under Category 2: Public Facilities, $300,000 max
- Risk assessment and engineering projects may be applied for under Category 4: Community Planning, $50,000 per project, 5% match

Contact: 518-474-2057, HCR_CFA@nyshcr.org

Deadline: 4:00 PM, July 26, 2019, ☑CFA

Empire State Development (ESD)

ESD is the New York state agency focused on economic development.

Empire State Development Grant Funds

The ESD is offering grant funds ($150M) in the 2019 consolidated funding application. Infrastructure investment that can foster new economic development is eligible under Category 1: Strategic Community Development Investment (grant funds cover up to 25% of project soft costs).

Contact: 845-567-4882, nys-midhudson@esd.ny.gov

Deadline: 4:00 pm, July 26, 2019, ☑CFA

NYS Hudson River Valley Greenway

The Greenway is state agency focused on using regional collaboration to conserve and enhance the natural, scenic and historic resources of the unique Hudson River Valley.

Greenway Communities Grant Program

Financial assistance for planning ($5,000 to $10,000 per project, more if multiple municipalities involved) is available to designated "Greenway Communities" within the Greenway Area. Projects funded under this program include those that relate to community planning, economic development, natural resource protection, cultural resource protection, scenic resource protection, and open space protection. Greenway Compact communities are eligible for greater funds to develop, approve, and implement a regional compact strategy consistent with the Greenway criteria and the Greenway act.

Contact: 518-473-3835, grants@hudsongreenway.ny.gov

Deadline: September 6 and November 8, 2019

LOCAL EXAMPLE: GREENWAY COMMUNITIES GRANT

The Village of Ossining received a $15,000 grant to create a Waterfront Recreational Resource Plan to identify ways to promote water-related uses on their 3 miles of Hudson River waterfront, and to outline strategies to increase public access, catalog existing recreational assets, and engage stakeholders to determine demand for possible upgrades.

Open Space Funding Options

Preserving land as open space in floodplains and in coastal areas is an important aspect of flood resilience recommendations. Here are several options for municipalities looking to preserve open space in their community:

- The municipality can advocate to have their land included in the NYS Open Space Plan that is updated every 5 years. This helps the community to show that the land has value outside of traditional development and is a good way to prepare for purchase of the land for open space. The State receives annual funding to purchase lands specifically mentioned in the plan. Municipalities can also seek grant funds to write or update their own Open Space Plan and include floodplain protection as one of the important values that open space provides.
- The municipality can work with a local or regional land trust, like the Wallkill Valley Land Trust or the Open Space Institute to purchase the land using easements if it has scenic, ecological and/or agricultural value. Then, the community may be able to work with the land trust to make the property more valuable as floodplain protection.
- The municipality can purchase the land for open space by taking on debt (bonds) or instigating a tax levy. One example of a relevant tax levy is called a Real Estate Transfer Tax, which has been passable by local law since NYS passed the Hudson Valley Community Preservation Act of 2007. This tax is applied to mortgages on local real estate and is used to create a conservation fund for the community, which can be used to preserve open space.

LOCAL EXAMPLE: REAL ESTATE TRANSFER TAX

The Town of Warwick passed a 0.75% Real Estate Transfer Tax and the Town of Red Hook a 2% tax to create a conservation fund to help provide financial support for their Open Space Plans.

Summary table of all funding assistance programs

Agency	Assistance Program	Categories	Grant amount, match	Deadline, CFA
DEC	✓ Estuary Program		$10,500-$50,000, 15%	7/10/19
	✓ CSC		$10,000-$2M, 50%	7/26/19 ☑CFA
	✓ WQIP		$1-10M, 25-60%	7/26/19 ☑CFA
	✓ NANS Planning		≤$30,000, 10%	7/26/19 ☑CFA
	✓ T4T		N/A	3/1, 8/1/19
DOS	✓ LWRP		No max, 15-25%	7/26/19 ☑CFA
	✓ BOA		≤$300,000, 10%	7/26/19 ☑CFA
EFC	✓ GIGP		No max, 10-60%	7/26/19 ☑CFA
	✓ WIEP		$30,000-100,000, 20%	Open
	✓ CWRSF / DWRSF		N/A	7/26/19 ☑CFA
FEMA	✓ HMA		N/A	Natural disaster trigger
	✓ PA		25%	Open
	✓ CRS		N/A	Open
ADDITIONAL	✓ NYSERDA CEC		N/A	Open
	✓ OPRHP Parks		≤$600,000, 25-50%	7/26/19 ☑CFA
	✓ OPRHP Rec Trails		$250,000, 20%	7/26/19 ☑CFA
	✓ HUD CBDG		$50,000 - $900,000, 0-5%	7/26/19 ☑CFA
	✓ ESD		75% for soft costs	7/26/19 ☑CFA
	✓ Greenway		$5,000 - $10,000+	9/6, 11/8/19
	✓ Open Space		N/A	N/A

CONTACT INFORMATION

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