

Resiliency Actions - Draft 12-10-18

Natural Resources

Overall Theme	Adaptation Strategies	Comments/Explanations	Potential Partnerships	Tools
Resource Management				
1Nr	Identify, prioritize, and acquire or ease riparian land and wetland properties adjacent to high priority coldwater resources. Prioritize restoration and management activities including; revegetation of stream banks/riparian zones and stocking of resilient strains and species. manage water withdrawals/diversions to maintain characteristic connectivity and hydrology.		local conservation groups, land use commissions, CT DEEP, Housatonic River Commission, HVA, CT DEEP	
2Nr	Create an Inventory of all road-stream crossing structures (i.e., bridges and culverts) in town and prioritize for replacement, based on conservation benefits, minimizing flood risk, and maintenance need. Re-establish connectivity and more natural flows along our rivers and streams by removing or modifying existing structural impediments, such as dams, and culverts. Re-establish connectivity and more natural flows along our rivers and streams by removing or modifying existing structural impediments, such as dams, and culverts. Modify upstream flood control and water management infrastructure and the operation thereof to allow for regular flooding of floodplain forests where feasible.	Cross reference with Infrastructure	HVA, Public Works, CT DOT, Housatonic River Commission	HVA Culvert Assessment Program (https://resilientrural.com/wp-content/uploads/2018/11/Natural-Resources-HVA-Culvert.pdf) ; North Atlantic Aquatic Connectivity Collaborative Database search page (https://naacc.org/naacc_search_crossing.cfm), Review documents required by FERC for hydropower facilities along regional rivers like Shoreline Management Plan, Critical Habitat Management Plan, Recreation Plan and Programmatic Agreements mentioned in Housatonic River Management Plan 2006.
3Nr	Promote opportunities for warmwater gamefish in rivers where populations of temperature intolerant species decline.		CT DEEP, recreational organizations	
4Nr	Advance land use policy/regulations (riparian buffer zones, stormwater management BMPs and Low Impact Development) that reduce temperature impacts to coldwater streams and throughout watersheds		local land use commissions, Housatonic River Commission, land trusts, Rivers Alliance of Connecticut	Town of Morris LID Manual; green infrastructure
5Nr	Identify and protect critical ground water source/recharge areas in your jurisdiction		CT DEEP (especially Aquifer Protection Program)	
6Nr	Increase expertise at the municipal review level to ensure that infrastructure improvements (e.g., culverts) and development will not alter existing natural hydrology.		local land use commissions and departments	
7Nr	Examine watershed management practices and land acquisition strategies to reduce nutrient and pollutant loading (e.g., water quality conditions, manure management).	Cross reference with Agriculture and Infrastructure	local land use commissions, Public Works, local conservation organizations	
8Nr	Promote comprehensive nutrient and runoff BMPs, regulations and policies (municipal and state) for lakes, pond, and impoundments to reduce eutrophication. Advance land use policy/regulations for vegetative shoreline buffers in developments adjoining lakes and ponds. Maintain vegetative buffers between local roads and waterbodies. Reduce nitrogen runoff through the use of alternative manure technologies (e.g., manure biodigester, composting).	Cross-indicated with Infrastructure -LID	local land use commissions, Public Works, CT DOT, local farms	Town of Morris LID Manual
9Nr	Promote upland forest resilience by increasing the use of fire control techniques through controlled burns and selective regeneration projects (improves diversity in forest age and species composition). Include open patch habitat and closed canopy habitat within overall forest habitat.		CT DEEP, Public Works, land trusts, private land owners	
10Nr	Manage deer population densities to allow for sufficient forest regeneration.	Cross reference with Public Health and tick management	Hunting organizations, CT DEEP, land trusts	

Resiliency Actions - Draft 12-10-18

Natural Resources

11Nr	Promote best management plans and regulations among private landowners and foresters to increase sustainable management for resilient forests.		CT DEEP, Public Works, land trusts, private land owners	NY Watershed Agricultural Council's Forestry Program information https://mywoodlot.com/ Forest Adaptation Resources: climate change tools and approaches for land managers, 2nd edition USDA: Forest Service https://resilientrural.com/wp-content/uploads/2018/11/Forest-Adaptation-Resources-Climate-Change-Tools-and-Resources-Land-owners-.pdf ; Forestry Management course https://www.forestadaptation.org/FAPPonline ; Forestry Management for land owners https://forestadaptation.org/sites/default/files/AFF_MassConn_Landowner_FactSheet.pdf
12Nr	Adopt conservation subdivisions and zoning reform to increase forest block size and reduce edge effects.		local land use commissions	
13Nr	Incorporate the impacts of extreme events into forest management practices. Promote increased understanding of such events among land owners and professional foresters.		CT DEEP, Public Works, land trusts, private land owners	Creating and Maintaining Resilient Forests in Vermont: Adapting Forests to Climate Change http://fpr.vermont.gov/sites/fpr/files/Forest_and_Forestry/The_Forest_Ecosystem/Library/Climate%20change%20report_final_v6-18-15a.pdf ; Climate Change Response Framework, Northern Institute for Applied Climate Science https://forestadaptation.org/new-england
14Nr	Greatly enhance land protection resources and incentives for private landowners to retain carbon sequestration value of forests.		CT DEEP, CT DRS, local land use commission	
15Nr	Promote principles of "smart growth" to also retain carbon sequestration values of forest and to better facilitate public transportation systems and energy transmission infrastructure, including wide scale distributed generation options for renewable energy.		local land use commission; NWCTD, local buses	
16Nr	Increase community preparedness for the potential of more frequent and intense wildland fires. Educate public on fire ignitors and accelerants. Teach homeowners about removal of fuel during high fire seasons.		EMDs, local emergency response	Firewise Communities Program

Resiliency Actions - Draft 12-10-18

Natural Resources

Municipal & Regional Activities				
17Nr	Consider climate change in local natural resource inventories and open space plans		land use commissions	CT NRCS Conservation Technical Assistance, Plan Review Worksheet https://resilientrural.com/wp-content/uploads/2018/11/Worksheet-2-Plan-Review-Checklist.docx
18Nr	Communicate with USGS to maintain stream gages to monitor peak flow, water volume, temperature, etc.	Also noted in "Connecticut Department of Transportation Climate Change and Extreme Weather Vulnerability Pilot Project, Recommendations"and WUCC Integrated Report; cross-reference with Infrastructure	CT DEEP, USGS, EMDs, local conservation organizations	
19Nr	Evaluate land acquisition for adaptation purposes (considering sea level rise, increase in frequency of severe storms, wildfire threat, loss of wildlife and fisheries habitat, etc.)		local land trusts, local land conservation organizations	Nature Conservancy Resilient Landscapes https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/Pages/default.aspx
20Nr	Implement Green Grounds and Maintenance Program esp. reduction of use of nitrogen-based fertilizers and indiscriminate pesticides	Cross reference with Sustainable CT Action 2.11.	Public Works, landscaping companies, golf courses, schools	
21Nr	Work with recreational land managers to identify vulnerabilities that could limit or eliminate public access.	Cross reference with infrastructure, public health, and cultural resources	Parks & Rec, Public Works, local conservation organizations	
22Nr	Promote habitat resilience by managing invasive species, in particular exotic insects including woolly adelgid, Asian longhorn beetle, emerald ash borer and gypsy moth. Plan for the impact of vectors like diseases and pests (e.g. avoid Ash trees in landscaping due to the Emerald Ash Borer). Develop invasive species management plan for municipal properties and encourage local nurseries to eliminate sale of invasive plants.	Cross reference with Sustainable CT Action 2.10 and POCD Goal 2.	Public Works, Parks & Rec, local conservation organizations, CT DEEP, land trusts, private property owners	CT NRCS Conservation Technical Assistance; Regulations on Movement of Firewood (https://www.ct.gov/deep/cwp/view.asp?A=2697&Q=508886)
23Nr	Link forest thinning projects to biomass reuse opportunities. This will support forest restoration/mitigation projects, which in turn will reduce the potential for catastrophic fires while providing economic benefits, such as alternative energy sources and workforce development.		CT DEEP, local land trusts, Public Works, schools, NWRWIB	Case Studies in Forest Health and Woody Biomass Utilization Webinar - https://www.youtube.com/watch?v=kyEvvclbxAQ
24Nr	Coordinate with local conservation groups to identify areas of cultural importance, priority conservation areas and environmentally sensitive habitats.		local conservation groups, land use commissions	Land Trust Alliance Land and Climate Program http://www.landtrustalliance.org/topics/climate-change ; The Nature Conservancy Northeast Resilience Alliance https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/reportsdata/terrestrial/resilience/ne/Pages/default.aspx
25Nr	Conduct a Natural Resources Inventory.		Conservation Commissions	CT NRCS Conservation Technical Assistance; Eco-Assets for Rural Municipalities (https://www.youtube.com/watch?v=LvX7wee7JDw&feature=youtu.be); Town of Kent Natural Resources Inventory
26Nr	Identify and construct a robust and resilient habitat corridor through the region. Consider use of purchase of development rights or conservation easements to protect climate vulnerable habitats. Coordinate with bordering towns and states on shared ecological challenges especially on invasive pests and shoring infrastructure.		HVA, The Nature Conservancy, EPA, Housatonic River Commission, CT DEEP, NHCOC, regional conservation organizations	Housatonic River Management Plan; Byers, E and K. Marchetti. 2005. The Conservation Easement Handbook. Trust for Public Land and Land Trust Alliance. Retrieved from http://learningcenter.lta.org/attached-files/0/57/5752/CEH_preview.pdf ; Western Governors' Association, Trust for Public Land, and National Cattlemen's Beef Association. 2001. Purchase of Development Rights. http://www.westgov.org/wga/publicat/pdr.pdf