

Recommended Strategies for 2016 version of Chittenden County AHMP, for consideration on Feb. 10, 2015:

6.5 Implementation and Monitoring of Mitigation Strategies

The following table will aid responsible entities in implementing the mitigation actions for Chittenden County, and facilitate annual monitoring of the plan. Strategies are organized by type of hazard, either NATURAL, TECHNOLOGICAL OR SOCIETAL.

Hazards received a RISK RATING out of possible high score of 80 as follows:

NATURAL HAZARDS:

Winter Storm (45), Severe Thunderstorm (45), Flooding (32), Extreme Temperatures (32), Fluvial Erosion (24), Wildfire (6)

TECHNOLOGICAL HAZARDS:

Hazardous Material Incident (28), Water Pollution (28), Power Loss (28), Multi-Structure Fire (24), Invasive Species (24), Major Transportation Incident (24), Sewer Service Loss (20), Water Supply Loss (20), Natural Gas Service Loss (15), Telecommunications Failure (15), Other Fuel Service Loss (4)

SOCIETAL HAZARDS

Economic Recession (28), Terrorism (27), Crime (24), Epidemic (24), Civil Disturbance (20), Key Employer Loss (16)

As discussed earlier, municipal governments, state agencies and utility companies are the most appropriate entities in the County to develop and implement mitigation strategies to address these hazards. However, at the regional level, the following hazards can also be addressed via mitigation strategies implemented by regional agencies, primarily the CCRPC.

NATURAL HAZARDS: Winter Storm, Severe Thunderstorm, Flooding, and Fluvial Erosion

TECHNOLOGICAL HAZARDS: Water Pollution

SOCIETAL HAZARDS: Economic Recession

Table 6-1 Chittenden County Multi-Jurisdictional All-Hazards Mitigation Plan Implementation Matrix

Mitigation Strategy & Hazards and Vulnerabilities Addressed	Page #	Primary Responsible Entity and Partners	Task	Brief Description
<p>#1 Assist municipalities with development of plans, policies and zoning regulations that mitigate against the following:</p> <p>Hazards</p> <ul style="list-style-type: none"> • Severe Thunderstorm • Flooding • Fluvial Erosion • Water Pollution <p>Vulnerabilities</p> <ul style="list-style-type: none"> • Damage to public infrastructure • Temporary road and bridge closure • Temporary power or telecommunication loss • Temporary isolation of vulnerable individuals • Budgetary impacts 		CCRPC ANR Municipalities	Flood Resilience Planning	Provide assistance with drafting of required Flood Resiliency chapters in municipal plans including language and maps regarding fluvial erosion/river corridors and flooding, and references to the All Hazard Mitigation Plans and Tactical Basin Plans. Municipalities that we are likely to work with include: Year 1: Bolton Year 2: Milton Year 3: Winooski, Shelburne, Burlington
		CCRPC ANR Municipalities	River Corridor Protection	As requested, provide assistance with mapping and development of regulatory language to preclude or minimize development within mapped River Corridors or fluvial erosion hazard areas.
		CCRPC ANR LC SeaGrant Municipalities	Water Quality Bylaws	Provide outreach, mapping and technical assistance to municipalities concerning adoption of zoning bylaws and other measures to improve water quality. Promote the use of Low Impact Development principles and Green Stormwater Infrastructure techniques in municipal Land Development Regulations to restore or maintain pre-development ecological and hydrological function through the protection, enhancement, or mimicry of natural processes.
		CCRPC ANR LC SeaGrant Municipalities	Storm Water Master Planning	Outreach and education to municipalities on benefits of stormwater master planning, and assistance in securing grants for this planning, in concert with Tactical Basin Planning (see Figure X). Lamoille River (Planning-2016; Monitoring & Assessment-2018-2019): towns of Milton, Colchester, Jericho, Underhill, Westford and Essex. Winooski River (Planning-2017-2018; Monitoring & Assessment-2020-2021): Burlington, Colchester, Essex, Hinesburg, Huntington, Jericho, Shelburne, South Burlington, Richmond, Williston and Winooski. Northern Lake Champlain (Monitoring & Assessment-2016-2017; Planning-2018-2019): Burlington, Colchester, Essex, Hinesburg, Milton, Richmond, Shelburne, South Burlington and Westford.
		CCRPC ANR LC SeaGrant Municipalities	Private Green Infrastructure	Provide information to assist property owners in incorporation of Green Stormwater Infrastructure techniques. Delivery primarily via websites and programming of Chittenden County Regional Stormwater Education Program / Chittenden County Stream Team.

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<p>#2 Promote municipal and public participation in development and implementation of Tactical Basin Plans to mitigate against the following:</p> <p>Hazards</p> <ul style="list-style-type: none"> • Severe Thunderstorm • Flooding • Fluvial Erosion • Water Pollution <p>Vulnerabilities</p> <ul style="list-style-type: none"> • Damage to public infrastructure • Temporary road and bridge closure • Temporary power or telecommunication loss • Temporary isolation of vulnerable individuals • Budgetary impacts 		CCRPC ANR AOT Municipalities	Project Prioritization Mapping Tool	Review the relevant transportation and river management data/plans for a watershed (or sub-watershed depending on size), and then geo-reference the data to help municipalities, VTrans, and ANR in prioritizing investments that address transportation, environmental and hazard mitigation needs concurrently. In concert with Tactical Basin Planning (see Figure X). Lamoille River (Planning-2016; Monitoring&Assessment-2018-2019): towns of Milton, Colchester, Jericho, Underhill, Westford and Essex Winooski River (Planning-2017-2018; Monitoring&Assessment-2020-2021): Burlington, Colchester, Essex, Hinesburg, Huntington, Jericho, Shelburne, South Burlington, Richmond, Williston & Winooski. Northern Lake Champlain (Monitoring &Assessment-2016-2017; Planning-2018-2019): Burlington, Colchester, Essex, Hinesburg, Milton, Richmond, Shelburne, South Burlington & Westford.
		CCRPC ANR Municipalities	Project Prioritization Process	CCRPC will assist in prioritizing Basin Plan projects in conjunction with ANR and municipalities in concert with Tactical Basin Planning (see Figure X). Lamoille River (Planning-2016; Monitoring & Assessment-2018-2019): towns of Milton, Colchester, Jericho, Underhill, Westford and Essex. Winooski River (Planning-2017-2018; Monitoring & Assessment-2020-2021): Burlington, Colchester, Essex, Hinesburg, Huntington, Jericho, Shelburne, South Burlington, Richmond, Williston and Winooski. Northern Lake Champlain (Monitoring & Assessment-2016-2017; Planning-2018-2019): Burlington, Colchester, Essex, Hinesburg, Milton, Richmond, Shelburne, South Burlington and Westford.
		CCRPC ANR Municipalities Non-profit orgs. Landowners	Shovel Ready CCRPC ANR Municipalities Projects	The CCRPC may assist in creation of a “shovel ready projects” database. The CCRPC shall provide information such as project name, location, type, and results of criteria evaluation, for incorporation into the tactical basin plan implementation table.

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<p>#3 Assist municipalities to develop & improve infrastructure that mitigates the following</p> <p>Hazards</p> <ul style="list-style-type: none"> • Severe Thunderstorm • Flooding • Fluvial Erosion • Water Pollution <p>Vulnerabilities</p> <ul style="list-style-type: none"> • Damage to public infrastructure • Temporary road and bridge closure • Temporary power or telecommunication loss • Temporary isolation of vulnerable individuals • Budgetary impacts 		CCRPC ANR AOT Municipalities	Municipal Roads General Permit	<p>Assist municipalities with compiling existing inventories of stormwater infrastructure, stream geomorphic information, culvert inventories, road erosion inventories and capital budgets, and Road Erosion Risk Analysis maps to assist in developing implementation priorities under the municipal roads general permit.</p> <p>In concert with Tactical Basin Planning (see Figure X). Lamoille River (Planning-2016; Monitoring & Assessment-2018-2019): towns of Milton, Colchester, Jericho, Underhill, Westford and Essex</p> <p>Winooski River (Planning-2017-2018; Monitoring & Assessment-2020-2021): Burlington, Colchester, Essex, Hinesburg, Huntington, Jericho, Shelburne, South Burlington, Richmond, Williston and Winooski.</p> <p>Northern Lake Champlain (Monitoring & Assessment-2016-2017; Planning-2018-2019): Burlington, Colchester, Essex, Hinesburg, Milton, Richmond, Shelburne, South Burlington and Westford.</p>
		CCRPC ANR AOT Municipalities	Transportation Infrastructure Mitigation Project Scoping	<p>Assist with finding funds to develop conceptual design & construction cost estimates for transportation infrastructure upgrade or replacement such as culverts, bridges, ditches, grading, etc. to reduce damages from hazard events.</p>

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<p>#4 Assist municipalities in protecting people, buildings and facilities where development already exists in vulnerable areas to mitigate against:</p> <p>Hazards</p> <ul style="list-style-type: none"> • Flooding • Fluvial Erosion <p>Vulnerabilities</p> <ul style="list-style-type: none"> • Damage to private homes & businesses 		CCRPC Municipalities	Reduce Future Flooding Risk for Existing Development	Assist municipalities with identifying vulnerable and/or repetitively damaged structures and provide assistance in securing assistance or funding to either a) elevate properties above BFE, b) relocate structures or c) buying out structures.
			Create New Flood Storage Capacity	Assist municipalities in identifying and planning for locations where new flood storage capacity may be created. These opportunities could include: creating parks and other open space in vulnerable locations, replacing a vertical wall along a river bank with a more gradual slope to create more room in the river channel for rising water, creating a shallow depression in the lawn that can accommodate inundation, or redesigning buildings to enable the first floor or basement to flood rather than armoring the buildings to repel rising waters (Vermont SGIA Guidance Document).

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<p>#5 Assist municipalities in promoting growth in appropriate locations and transportation infrastructure planning</p> <p>Hazards</p> <ul style="list-style-type: none"> • Economic Recession <p>Vulnerabilities</p> <ul style="list-style-type: none"> • Increased unemployment • Decreased tax base 		<p>CCRPC Municipalities</p>	<p>ECOS Strategy 3.2.2 Strive for 80% of new development in areas planned for growth, which amounts to 15% of our land area.</p>	<p>Implement Action Item 1: <u>Invest in Areas Planned for Growth especially</u></p> <ul style="list-style-type: none"> a. Establish wastewater, water infrastructure and public transit in areas currently developed and/or planned for growth. b. Target reuse, rehabilitation, redevelopment, infill, and brownfield investments to area currently developed and/or planned for growth. <hr/> <p>Implement Action Item 6: <u>Metropolitan Transportation Plan Investments especially:</u></p> <ul style="list-style-type: none"> a. Adequately fund the maintenance and preservation of our existing transportation assets including roads, bridges, rail, transit, walking/biking facilities, and transportation demand management (TDM) programs and facilities. b. New transportation system investment should focus on the highest priority transportation projects as detailed in the ECOS/Metropolitan Transportation Plan (MTP) Project List. In the next five years, these projects will primarily be those that are included in the Transportation Improvement Program (TIP), as may be amended. The TIP projects are considered FUNDED VITAL PROJECTS for the purposes of the Comprehensive Economic Development Strategy (CEDS).

The following strategies are not Mitigation Actions but the CCRPC and its municipalities and LEPC-#1 propose to highlight these activities to illustrate other regional programs that promote effective Emergency Management as a whole:

Emergency Management Activity	Page #	Primary Responsible Entity and Partners	Task	Brief Description
Identify hazardous materials transport information and train for transportation-related hazardous materials incidents.		CCRPC, LEPC #1	Hazardous Materials Transportation	Updated from Strategy # from 2011 Plan. I help identify hazardous materials transport and transportation-related hazardous materials incidents.. Participate in the development of the state wide hazardous commodities flow study planned for FFY16-FFY17.
		CCRPC, LEPC #1	LEPC#1 Operations	Continue to host monthly meetings of Local Emergency Planning Committee #1 to maintain and increase awareness of Emergency Management issues in the County and State.
Operate Emergency Management Planning Program		CCRPC	EMPG program	Continue to implement various deliverables of EMPG contract with State DEMHS
			RPC-VDEHMS MOU	Upon request, provide assistance to State and Municipalities with Preparedness, Response, Recovery & Mitigation activities in response to impending, current and past disasters or emergency events.