

Table 11: 2018 State Hazard Mitigation Plan Capabilities				
Capability	Description	Type	Category	Improvement Opportunity
FEMA - Pre-Disaster Mitigation (PDM) Grants	Annual funding providing baseline support for mitigating natural hazards and planning. Relies on annual allocations from Congress and requires a 25% local match.	Federal	Funding	Funding for engineering to develop strong applications is lacking, but phased projects are not eligible. The 3-year Period of Performance (POP) for PDM begins when the application period opens, which is often many months before projects are awarded, significantly reducing the time in which the scope of work can be achieved. Management Costs under PDM are not released until awards are made, despite significant work being requested pre-award. The State should improve outreach to towns and RPCs to encourage application development and submission.
FEMA - Flood Mitigation Assistance (FMA) Grants	Annual funding providing baseline support for mitigating flood hazards. Funding is through the National Flood Insurance Program (NFIP) and only available to towns participating in NFIP. Requires a 25% local match.	Federal	Funding	PDM 2017 supported Technical Assistance applications, previously identified as an area for improvement. Technical Assistance should continue to be supported and expanded. Syncing the NFIP and HMA SRL/RL lists to ensure that those properties most at-risk to flooding can access FMA funds.
FEMA - Hazard Mitigation Grant Program (HMGP)	Available following a disaster at 15% of the total Public Assistance funding allocated in a disaster. Requires a 25% match. Up to 7% of funding is available for planning.	Federal	Funding	HMGP is only available following a disaster, but could better serve affected communities as a block-style grant program (similar to FEMA's Project Impact in 1999). The time between application submittal and award needs to be reduced in order to prevent towns from being deterred from the program by wait times - recommended changes include streamlining the EHP/SHPO and programmatic review processes; developing a single, complete Request for Information (RFI); and increasing the number of technical assistance trainings offered at the Regional- and State-level. Post-disaster outreach to affected towns needs to be improved.
FEMA NFIP - Increased Cost of Compliance	Following a flood, a damaged home or business may be required to meet certain building requirements to reduce future flood damage before you repair or rebuild. The ICC is available to cover the costs of meeting those requirements for policy holders. Eligible projects include elevation, relocation, demolition or flood-proofing.	Federal	Funding	Up to \$30,000 is available through ICC, but the funding can only be used during the demolition phase of an acquisition/demolition project. Eligibility should be expanded to allow funds to help offset the local match for an acquisition/demolition, which will significantly increase the number of property owners interested in participating in a buyout.
FEMA - 5% Initiative (HMGP)	Up to 5% of HMGP funding is available to fund mitigation activities that do not meet the required BCA threshold using a FEMA-approved methodology.	Federal	Funding	The 5% Initiative under HMGP is specifically tailored to those projects whose cost-effectiveness is difficult to determine under the FEMA BCA process, but VEM and its subapplicants have been largely unsuccessful in having 5% projects awarded.
FEMA - Advance Assistance (HMGP)	Up to 25% of HMGP funding is available to provide States with resources to develop mitigation strategies and obtain data to prioritize, select and develop complete HMGP applications.	Federal	Funding	VEM needs to create a retainer contract with a list of qualified contractors to more rapidly access and deploy Advance Assistance funds across the State following a Declaration, which will improve application quality and overall interest in the program.
FEMA - Public Assistance Program (406 Mitigation)	406 funding provides discretionary authority to fund mitigation measures in conjunction with the repair of the disaster-damaged facilities.	Federal	Funding	Improving coordination of Vermont's real mitigation needs with FEMA Public Assistance field staff in the immediate post-disaster timeframe. Better accessing these funds will have the added benefit of increasing the HMGP allocation, which will further promote mitigation and reduce vulnerability.
HUD - Community Development Block Grant-Disaster Relief (CDBG-DR)	Flexible grants available following a disaster to help cities, counties, and States recover from declared disasters. Funding can be used as local match for FEMA grants.	Federal	Funding	Only available following a disaster.
HUD - Community Development Block Grant (CDBG)	Flexible program that provides communities with resources to address a wide range of unique community development needs. Funding can be used as local match for FEMA grants.	Federal	Funding	Need to make the use of CDBG funds to match federally-funded mitigation projects a more formal agreement between the State funding agencies, to ensure and promote continued success.
FEMA - Community Rating System (CRS)	Voluntary incentive program that encourages community floodplain management activities that exceed the minimum NFIP requirements.	Federal	Incentive	The incentive program is designed to accommodate more populous areas than the average Vermont town, with limited town capacity to undergo the necessary application and maintenance requirements; a "light" version should be offered for more rural areas, which still incentivize proactive mitigation, but which do not penalize.
EPA - Brownfields Grant Funding	Funding for Brownfields assessment, cleanup, revolving loans, and environmental job training.	Federal	Funding	Need to develop a way to combine clean-up efforts through EPA Brownfields & mitigation project; many grant programs will not fund Brownfields until after cleaned.
U.S. Army Corps of Engineers - Silver Jackets	Team of State and Federal partners facilitate collaborative solutions to state flood risk priorities.	Federal	Funding; Technical Assistance	Need to improve communications with USACE on mitigation projects throughout the State; as well as improve on the State's understanding of the Silver Jackets Pilot program (e.g. project eligibility) in order to better capitalize on it.
USDA-NRCS Programs (EQIP, CSP, RCPP, ACEP)	Financial and technical assistance to agricultural producers for soil improvements, riparian buffers, and other water quality work. Funds also support conservation easements for wetland restoration and farmland preservation.	Federal	Funding	Increase funding opportunities by leveraging conservation partner resources to help with outreach, planning, design, and implementation which in turn would allow greater financial investments.
USDA - Emergency Watershed Protection Program	Provides technical and financial assistance for relief from imminent hazard in small watersheds.	Federal	Funding; Technical Assistance	Increase coordination with towns through outreach and informational meetings with towns and project sponsors ahead of disaster events.
USDA - Emergency Conservation Program	Provides emergency funding and technical assistance to farmers and ranchers to rehabilitate farmland damaged by natural disasters and to implement emergency water conservation measures in periods of severe drought.	Federal	Funding; Technical Assistance	More information on this program needed.
USDA - Emergency Farm Loans	Provides emergency loans to help producers recover from production and physical losses due to drought, flooding and other natural disasters.	Federal	Funding	More information on this program needed.

Capability	Description	Type	Category	Improvement Opportunity
USFS - Landscape Scale Restoration	Annual funding to assist State Forestry agencies in achieving their respective state forest action plans.	Federal	Funding	Vermont Forest Action Plan updated in 2017; no need for improvement at this time.
Vermont Emergency Relief and Assistance Fund (ERAF)	State funding to match Federal Public Assistance after declared disasters. Incentivizes municipalities to take specific steps to reduce flood damage to receive an increased State share. 20 V.S.A. Chapter 1 Section 45. Accomplished action from 2013 SHMP.	State	Incentive; Funding	ERAF rule needs to be reconsidered, after analyzing several years' worth of data and failure/success stories. The current rule is not viable for some Vermont communities, and does not necessarily promote the type of mitigation that the State is encouraging. Rewriting the rule with these considerations could greatly improve mitigation success. Revision of ERAF identified as a high priority action in 2018 SHMP.
DEC - Vermont Ecosystem Restoration Grant Program	Fund priority projects that restore and protect rivers, streams, lakes, ponds, and wetlands from nonpoint source runoff and associated nutrient and sediment pollution.	State	Funding	Currently limited to water pollution-based projects and should be expanded to cover a wider reach of water-related mitigation projects. Need to better connect this State-funded grant program with federally-funded grant programs to fund eligible, competitive projects at 100% cost.
VTrans - Better Roads Program	Provides technical support and grant funding to municipalities to promote the use of erosion control and maintenance techniques to protect water quality.	State	Funding; Technical Assistance	Need to better connect this State-funded grant program with federally-funded grant programs to fund eligible, competitive projects at 100% cost; VEM and VTrans need to improve communications to make this project coordination happen.
DEC - Vermont Watershed Grants	Grants available to protect and restore watersheds. Funded through half of the sales of the Vermont Conservation License Plate.	State	Funding	This grant program is not widely known across grant-funding agencies; potential to combine efforts with federally-funded mitigation projects to ensure project success, but communication between agencies needs to be improved/realized.
ACCD - Municipal Planning Grants	Funds local planning initiatives that support statewide planning goals and revitalization for local municipalities in Vermont.	State	Funding	Not enough funding; becoming inaccessible for small and rural communities. Can be used as match.
VTrans - Better Connections Program	Annual program of local investments to increase transportation options, build resilience, and strengthen economic vitality in community centers.	State	Funding	Tie in with hazard mitigation projects in designated downtowns (e.g. stormwater plan implementation) to increase efficiencies.
DEC - Clean Water State Revolving Fund	Funding for Vermont's Clean Water Projects in the form of low interest loans to municipalities.	State	Funding	Risk associated with these loans is potentially too great for more rural communities to take on, and therefore the resource is not capitalized on as much as it should be.
ACCD - Rehabilitation Tax Credits	Tax credits support general rehabilitation, code compliance, and exterior improvements for commercial and nonprofit owned buildings in Designated Downtowns and Village Centers.	State	Incentive	Greater flexibility to use for structural elevations (or 25% match for FEMA-funded structural elevation).
River Corridor Easement Program	Provides a financial incentive to landowners to allow for passive restoration of channel stability, where the landowner sells their river channel management rights within the meander belt of sensitive and erosive streams to reduce conflict with unstable streams and maximize the public benefits associated with geomorphically stable streams and floodplains. 10 V.S.A. Chapter 49 and 24 V.S.A. Chapter 117.	State	Funding; Technical Assistance	River Corridor Easement Program needs to be expanded. Identified as a high priority action of the 2018 SHMP.
High Meadows Fund - Watershed Collaboration Grant Program	Funding for cross-community collaboration on watershed projects upstream/downstream.	Nonprofit	Funding	This is not a reliable funding source, as priorities within HMF change annually. Need to highlight the success of the pilot projects funded under this program and connect with other mitigation initiatives being funded by other organizations/agencies to garner support for watershed collaboration efforts.
Lake Champlain Basin Program - Grants	Grants to support implementation of local projects that benefit the Lake, and funds scientific research that drives resource management in the Basin.	Nonprofit	Funding	Faced with loss of federal funding/support.
VHCB - Housing Program	Deferred loans for the acquisition, rehabilitation and construction of affordable housing. Funding has been used to cover the 25% local match for FEMA buyout grants.	Nonprofit	Funding	Funding has been extraordinarily useful in the post-Irene buyout program in Vermont, but the funding is not consistently available. Identified as an action of the 2018 SHMP.
Vermont Disaster Relief Fund	Established to coordinate resources and raise and deliver donor dollars to those in need following a disaster.	Nonprofit	Funding	Only via disaster case management; too few case managers & no access to funds to pay them.
Vermont Arts Council - Cultural Facilities Grant	Funding for nonprofits and municipalities to enhance, create, or expand the capacity of an existing building to provide cultural activities for the public.	Nonprofit	Funding	Potentially underutilized resource.
The Nature Conservancy - Wetland & Floodplain Restoration Fund	Not yet running - program under development.	Nonprofit	Funding; Technical Assistance	Program under development; once created, outreach efforts need to be dovetailed with other mitigation efforts in order to leverage this non-federal funding source.
FEMA - Map Service Center	Public source for flood hazard information in support of the National Flood Insurance Program.	Federal	Tool	Tool underutilized by municipalities when trying to determine location of parcels/structures with respect to the FEMA-mapped Special Flood Hazard Areas. Outreach/technical assistance for using this tool should be incorporated into mitigation application development training, and other trainings that may include floodplain planning/mapping.
FEMA - Risk Map	Limited hydrologic and hydraulic restudy and digitization of existing data to facilitate floodplain regulation, flood insurance rating, land use planning, and project planning.	Federal	Data	FIRMs need updating; very inaccurate in some places but banks rely on them for insurance; large gaps in coverage across the State and the RiskMAP process is very lengthy. FIRMs do not consider fluvial erosion hazards.
USGS - Stream Gauge Data	Real-time data on stream levels.	Federal	Data	Need greater density of coverage; sustained funding; consistency between data platforms (NOAA vs USGS) is lacking or misunderstood.
FEMA - Benefit-Cost Analysis Software	Tool for determining the Benefit-Cost ratio required for FEMA grant programs.	Federal	Tool	Need more consideration of ecosystem service beyond acquisitions; method/waiver erosion hazards. Identified as a high impact action in the 2018 SHMP.

Capability	Description	Type	Category	Improvement Opportunity
USGS - Flood Inundation Mapper	Mapping tool including National Weather Service radar and flooding status.	Federal	Tool	Needs to be made accessible to community planners.
NRCS - RUSLE2 Erosion Prediction Technology	Tool to guide conservation planning, inventory erosion rates and estimate sediment delivery.	Federal	Tool	The process is often slow and clunky and needs revision to be made more accessible.
FEMA - HAZUS Software	Software models for estimating potential losses from earthquakes, floods, and hurricanes.	Federal	Tool	This can be costly and is often not an effective tool for mitigation planning at the local level.
Vermont - HMA Project Review Form	Newly drafted in 2015, the HMA Project Review Form addresses State priorities for funding mitigation projects. Accomplished action from 2013 SHMP.	State	Tool	Needs to be continually revised as mitigation-related priorities change across State government.
BGS - State-Owned Facility Inventory (Appendix to Section 3)	Thorough assessment of flood-vulnerable (inundation flooding & fluvial erosion) state-owned and leased buildings, which also identifies mitigation options for the priority buildings identified by a committee. Data currently under development. Action from 2013 SHMP under development.	State	Tool	Currently under development so new areas for improvement not yet identified. Implementation of the to-be-determined recommendations identified as an action in the 2018 SHMP.
Flood Ready Website	Compilation of Vermont flood information. Accomplished action from 2013 SHMP.	State	Tool	Outreach/education efforts on the utility of this website need to continue at the local level.
ACCD - Mobile Home Park Risk Assessment Tool	Excel spreadsheet containing flood hazard information, water and wastewater systems and State permits, and lot rent and vacancy changes for mobile home parks. Accomplished action from 2013 SHMP.	State	Tool	Needs to be more widely publicized for use in other State planning and implementation efforts. Use of this tool identified in several actions of the 2018 SHMP.
VTrans Transportation Resilience Application (Appendix to Section 3)	Still under development. Only available for 3 watersheds as a pilot.	State	Tool	This is a new capability, funded in part through the SHMP 2018 HMGP Planning Grant, which has garnered a great deal of interest and support from other State Agencies and engineering firms. The Application needs to be expanded to cover all watersheds in Vermont and education/outreach on how to use the tool needs to take place. Expansion of the tool identified as a high priority action of the 2018 SHMP.
VTrans Hydraulics Manual	Manual was updated in 2015 to incorporate performance standards from the Stream Alterations Regulations. Accomplished action from 2013 SHMP.	State	Tool	Continued collaboration between ANR-DEC, VTrans and VEM necessary during future iterations of the model to ensure newest shared goals and policies are incorporated.
Vermont LiDAR Coverage	Full LiDAR coverage data and map under development.	State	Data	Inconsistent data quality throughout state.
DEC - Landslide Hazard Online Reporting Tool	Allows the general public to report landslides online.	State	Tool	Not widely known to the general public; would benefit from increased outreach to increase awareness.
DEC - Water Shortage Online Reporting Tool	Allows the general public to report water shortages online.	State	Tool	Not widely known to the general public; would benefit from increased outreach to increase awareness.
Vermont Climate Change Mapping and Data Tool	Mapping tool and data grapher that is just being launched.	State	Tool	The Mapping Tool needs a champion, as it does not currently reside within any single Department. Without a staff person assigned to maintenance of the Tool, it may go overlooked and/or unused.
Vermont Climate Change Website	General climate change information.	State	Tool	The Climate Change website needs a champion, as it does not currently reside within any single Department. Without a staff person assigned to maintenance of the website, it may go overlooked and/or unused.
ANR - Natural Resources Atlas	Geographic information about environmental features in Vermont.	State	Tool	Natural Resources Atlas trainings should be expanded.
AHS - Heat Vulnerability Index	Vulnerability to heat related illness data by town.	State	Tool	Not enough awareness that this exists.
ACCD - Vermont Economic Resilience Initiative (VERI)	Initiative developed for six communities in the State that considers various approaches to mitigating the economic effects of flooding. Accomplished action from 2013 SHMP.	State	Tool	Ideally, this would be expanded to other communities. Implementation of the suggested measures for the six communities selected should be explored through various funding efforts to capitalize on the work done in the report.
ACCD - Consolidated Plan	Plan addresses State priorities for funding, replacement, development, preservation or relocation of at-risk mobile home parks. Accomplished action from 2013 SHMP.	State	Tool	Not enough awareness that this exists.
VDH - Environmental Public Health Tracking	Provides data in maps, charts and tables. Accomplished action from 2013 SHMP.	State	Tool	Need to make the tracking tool more widely known so that it is accessed/used more frequently, which will provide better data for research and mitigation purposes.
AHS - Social Vulnerability Index	Planning tool to evaluate the relative vulnerability of populations in different parts of the State.	State	Tool	Not enough awareness that this exists.
The Nature Conservancy - Vermont Water Quality Blueprint	Tool to help watershed managers and conservation practitioners prioritize areas that provide the most benefit to water quality and conservation goals.	Nonprofit	Tool	Currently lacks headwater storage prioritization but is currently being incorporated. Will be used to implement a high priority action of the 2018 SHMP.
The Nature Conservancy - Vermont Dam Screening Tool	Assessment of the ecological impact of dams to fish passage in the Vermont portion of the Lake Champlain basin. Prioritizes dams for removal based on ecological impact.	Nonprofit	Tool	Dam condition can be added for further screening; data currently insufficient. Expansion of this tool identified as a high priority action of the 2018 SHMP.
SHELDUS	County-level hazard data for natural hazards such thunderstorms, hurricanes, floods, wildfires, and flash floods, heavy rainfall.	Nonprofit	Tool	SHELDUS data is typically only available at the County level, though LHMPs require the best available local data; recently, SHELDUS has become fee-based, making the platform less accessible and therefore less useful.

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UVM - Vermont Mobile Home Park Community Data	Resources for exploring data and maps to support Mobile Home Park emergency preparedness and mitigation.	Nonprofit	Tool	Need to secure funding to continue the development and maintenance of this resource; having access to accurate data regarding Vermont's vulnerable populations is critical for State and local planning efforts. Identified as a tool to implement a high priority action of the 2018 SHMP.
FEMA - Hazard Mitigation Technical Assistance Program (HMTAP)	To provide technical assistance to improve emergency management practices nationwide.	Federal	Technical Assistance	Not easily accessible; funding is relatively scant.
NRCS - Conservation Technical Assistance	Conservation technical assistance to land-users, communities, government, and other Federal agencies in planning and implementing conservation systems.	Federal	Technical Assistance	Knowledge of the NRCS funding opportunities is not well known to the hazard mitigation community; more collaboration between NRCS needs to take place in order to access best-use funds for mitigation projects.
Vermont Standard River Management Principles and Practices	Aim to support more effective flood recovery implementation, improve the practice of river management and codify best river management practices in Vermont. Also includes language regarding debris removal. Accomplished action from 2013 SHMP.	State	Technical Assistance	Continued collaboration between ANR-DEC, VTrans and VEM necessary during future iterations of the SRMPP to ensure newest shared goals and policies are incorporated.
DEC - Green Infrastructure	Green Infrastructure Collaborative (GIC) is a partnership between VT DEC and Lake Champlain Sea Grant Program at UVM. GIC promotes Low Impact Development and Green Stormwater Infrastructure practices in Vermont watersheds to manage stormwater runoff from developed lands.	State	Technical Assistance	Guidelines and tools developed from GIC are still new, so improvements have yet to be identified.
DFPR - County Forester Program	County Foresters provide forest management and forest stewardship information, technical assistance, and outreach to landowners in Vermont.	State	Technical Assistance; Training	Underutilized resource for potential hazard mitigation education/outreach (e.g. headwater storage identification and forest management). Improving headwater storage through various actions was identified as a mitigation strategy in the 2018 SHMP.
ANR - Rivers and Roads Training	Three tier training program to considering the river in the design, construction and maintenance of transportation infrastructure.	State	Training	Outreach and exposure to the Rivers and Roads Training has expanded since SHMP 2013, with increased course enrollment and training opportunities. Should be expanded further to the "Tier III" level (work on developing Tier III began in 2017). Identified as an action in the 2018 SHMP.
ANR - Municipal Day	Annual conference put on by ANR, VTrans, and ACCD, including poster presentations and workshops, the opportunity to engage with Agency staff members and municipal colleagues from across the State.	State	Training	There needs to be a Hazard Mitigation workshop session with VEM, ANR, VTrans and ACCD staff to highlight a few hazard mitigation projects in the State and to explain how various funding sources can be leveraged to reduce vulnerability at the regional, local or watershed level. Increasing public knowledge of hazards and mitigation is identified as a mitigation strategy in the 2018 SHMP.
UVM - Climate Controls on Air Quality Paper	Report published in Atmospheric Environment in 2015 that analyzed the climatological factors associated with high ozone events in the Northeastern US. Accomplished action from 2013 SHMP.	State; Academia	Technical Assistance	As a technical paper to be used as a resource, there is no area for improvement at this time.
VLCT - Town Fair	Networking and training event for members which attracts more than 500 attendees due to training opportunities and displays of vendors that provide an array of services to municipalities.	Nonprofit	Training	There needs to be a Hazard Mitigation breakout session at the VLCT Town Fair to discuss what hazard mitigation looks like across the State and to share success stories with the audience. Ability to promote hazard mitigation at the table setting is limited. Increasing public knowledge of hazards and mitigation is identified as a mitigation strategy in the 2018 SHMP.
ASFPM - Certified Floodplain Manager Program	National program for certifying floodplain managers to enhance the knowledge and performance of floodplain management professionals.	Nonprofit	Training	Lack of funding available to support the exam and membership fees for ASFPM for staff who develop and review hazard mitigation project applications.
UVM Extension - Center for Sustainable Agriculture	Technical assistance to farmers on water quality improvements.	Nonprofit	Technical Assistance	Underutilized for hazard mitigation projects.
UVM Extension - Town Officers Education Conferences (TOEC)	Bi-annual seminars to help town clerks, planners, listers, select board members and other officials do their jobs more effectively by providing updates on tax laws and regulations, municipal recordkeeping and effective strategies for handling planning, zoning and other town issues.	Nonprofit	Training	VEM mitigation staff have yet to participate in the UVM Extension TOEC and are, therefore, missing an opportunity to promote hazard mitigation at the local level.
FEMA - National Flood Insurance Program (NFIP)	Providing insurance to property owners and by encouraging communities to adopt and enforce floodplain management regulations.	Federal	Regulation	NFIP does not cover all affected properties, and does not take into account fluvial erosion risk. NFIP also allows development in special flood hazard areas. Since Biggert-Waters, premiums have increased drastically, making it unaffordable for many flood-vulnerable property owners and less enticing for structures located just outside of the SFHA. NFIP SRL and RL lists do not match the FEMA HMA lists - this lack of consistency causes issues for funding mitigation opportunities.
FEMA - Local Hazard Mitigation Plans	FEMA approved Local Hazard Mitigation Plan is required in order to apply for FEMA Hazard Mitigation Assistance grant programs. Shelf-life is 5 years.	Federal	Regulation	The FEMA LHMP Review Tool is directed towards county-level or highly-populated cities, making the process and subsequent approval for small towns very difficult. The funding for these plans is inconsistent; leveraging funding for and inclusion in the municipal planning process would greatly increase mitigation planning exposure, funding opportunities and likelihood of plan implementation. An LHMP template for towns should be developed by VEM mitigation staff. Improvement of LHMPs identified as a strategy of the 2018 SHMP.
DEC - Model Flood Hazard Areas Bylaws	These models contain standards that exceed NFIP minimum requirements and approximate the standards adopted by the State in its regulation of floodplains and river corridors	State	Regulation	As these were released in early 2018, areas for improvement are not yet identified. Promotion of adopting bylaws identified as an action in the 2018 SHMP.

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AAFM - Required Agricultural Practices	Practices and management strategies to which all types of farms must be managed to reduce the impact of agricultural activities to water quality.	State	Regulation	As these were released in early 2017, areas for improvement are not yet identified.
VTrans - Road and Bridge Standards	State approved standard for town roads and bridges.	State	Regulation	Generally more difficult for smaller towns to adopt these standards, as one size does not fit all.
VTrans - Municipal Road General Permit	Requires significant reductions in stormwater-related erosion from paved and unpaved municipal roads and merges stream stability requirements under DEC Stream Alteration General Permit, where applicable.	State	Regulation	More advertisement and show-casing of successful projects necessary to promote work being done and adherence to the permits.
DEC - Stormwater Permit	Regulatory oversight and technical assistance to ensure proper design and construction of stormwater treatment and control practices to minimize the adverse impacts of stormwater runoff to surface waters.	State	Regulation	Education/training regarding the DEC Stormwater Environmental Research Tool (ERT) needs to be expanded so that more complete, better-researched stormwater permits are being submitted for review.
DFPR - Acceptable Management Practices for Maintaining Water Quality on Logging Jobs	Provide measures for loggers, licensed foresters, and landowners to utilize, before, during, and after logging operations to comply with the Vermont Water Quality Standards under the Federal Clean Water Act and to minimize the potential for discharge from logging operations.	State	Regulation	AMP outreach should be included in hazard mitigation educational materials. Identified as a strategy in the 2018 SHMP.
DEC - Stream Alteration Rules and Permits	Regulates activities that take place in or along streams to prevent the creation of flood hazards, protect against damages to aquatic life, and protect the rights of neighboring landowners. 10 V.S.A. Chapter 41.	State	Regulation	Need to improve the DEC-SEOC communication process to ensure that work being done during and immediately following a riverine disaster is complying with the Stream Alteration Rules and Permits, including the Emergency Protective Measures (EMPs) via Act 138. DEC Rivers staff need to be named as potential SEOC (SSF11) personnel. Identified as an action in the 2018 SHMP.
Act 138	Legislation aimed at minimizing and preventing the loss of life and property, the disruption of commerce, the impairment of the tax base and the extraordinary public expenditures and demands on public service that result from flooding. The new Flood Hazard Area and River Corridor Rules were adopted in 2014. Accomplished action from 2013 SHMP.	State	Regulation	Need to improve the DEC-SEOC communication process to ensure that work being done during and immediately following a riverine disaster is complying with the Stream Alteration Rules and Permits, including the Emergency Protective Measures (EMPs) via Act 138. DEC Rivers staff need to be named as potential SEOC (SSF11) personnel. Identified as an action in the 2018 SHMP.
Act 162	Grants authority to municipality to declare condemned to be destroyed a property that is damaged in a declared disaster. Accomplished action from 2013 SHMP.	State	Regulation	List of post-disaster condemned structures needs to be shared across pertinent agencies to more quickly facilitate potential mitigation actions (e.g. buyouts). Identified as an action in the 2018 SHMP.
Act 8	Grants authority to ACCD relating to mobile home parks' habitability standards and compliance. Accomplished action from 2013 SHMP.	State	Regulation	Training of public officers needs to be expanded.
DEC - Vermont Stormwater Management Manual	To protect, maintain, and improve the waters in conformance with the Vermont Water Quality Standards, by requiring the most effective stormwater treatment practices. Accomplished action from 2013 SHMP.	State	Regulation	Better education/outreach needed; needs to be dovetailed with other water quality best practices and planning efforts.
Vermont Dam Safety Program	Increases regulatory authority of the Vermont Dam Safety Program's inspection and inventory of dams across the State.	State	Regulation	Act 161 passed on 5/22/18, so areas for improvement not yet identified. Improving dam resilience identified as a strategy of the 2018 SHMP.
Act 250: State Land Use and Development	Act 250 regulates land use permitting decisions for development applications of a certain size. The relevant section of Act 250 that mitigates natural hazard risk is §6086, which requires ANR to review Act 250 permit applications for flood inundation and erosion impacts. ANR and specifically the floodplain managers within the Rivers Management Program make case-by-case determinations on whether a permit application is for a project within a "floodway" or "floodway fringe". Vermont Supreme Court established that in Vermont the designation of "floodway" within Act 250 is much broader than the FEMA minimum standard, and can include fluvial erosion analyses in addition to the FEMA-mapped floodway. As a result, new developments requiring an Act 250 permit are not typically allowed within the FEH corridor as determined and mapped by ANR. 10 V.S.A. Chapter 151, §6086(a)(1)(D).	State	Regulation	Special exemptions exist for designated downtowns, allowing for development in the regulated floodway and Special Flood Hazard Area. Identified as a strategy of the 2018 SHMP.
Vermont Shoreland Protection Act & Permitting	Regulates shoreland development within 250' of a lake's mean water level for all lakes and ponds greater than 10 acres in size	State	Regulation	No area for improvement at this time.
Vermont Aboveground Storage Tank Rules	Aboveground Storage Tank rules were updated by ANR-DEC to include specific requirements for ASTs in flood-prone areas. Accomplished action from 2013 SHMP.	State	Regulation	No area for improvement at this time.
Permitting Planting Projects in Flood Hazard Areas	"This act provides that a planting project in a flood or other hazard area or river corridor protection area shall be considered to have a municipal land use permit by operation of law. However, a planting project will not be considered to have a permit by operation of law if it is part of a larger undertaking that includes construction or other physical disturbance of land, or is a forestry operation or a component of such an operation. (Act No. 4 (H.53), 2017)	State	Regulation	No area for improvement at this time.

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Title 10 Chapter 32: Flood Hazard Areas	This law defines what a flood hazard area is and how to map it, and establishes that the State will provide assistance to local governments to help manage flood-prone lands; coordinate federal, state, and local management activities; and encourage local governments to manage flood hazard areas and flood-prone lands. Furthermore, it provides that Vermont will “maintain the agricultural use of flood-prone lands” and “carry out a comprehensive statewide flood hazard area management program for the State in order to ensure eligibility for flood insurance,” 10 V.S.A §751.	State	Regulation	Adoption of river corridor bylaws by municipalities is low; education/outreach efforts for the bylaws are ongoing by ANR-DEC Rivers staff, but municipalities see the bylaws as too development-restrictive. Identified as an action in the 2018 SHMP.
Title 10 Chapter 39: Watershed Protection and Flood Prevention	This statute empowers Vermont’s Governor to take any necessary actions to mitigate flood damage, authorizes the DEC to utilize State funds to operate and maintain flood prevention structures, and provides eminent domain authority.	State	Regulation	A potentially underutilized resource for hazard mitigation and public safety issues.
Title 24 Chapter 83: Building Inspectors and Regulation of Buildings	This statute requires that when any municipality adopts a building code, it shall impose requirements consistent with the current Vermont Fire Prevention & Building Code, as adopted by the Commissioner of Public Safety. 24 V.S.A. §3102	State	Regulation	No area for improvement at this time.
Title 24 Chapter 117: Municipal and Regional Planning and Development	This State statute enables municipal planning and land use regulation and was modified in 2014 to include a required “flood resilience element” in municipal and regional plans. 24 V.S.A. §4348(a)(11)(A)	State	Regulation	No area for improvement at this time.
State Hazard Mitigation Planning & Policy Committee	Committee comprised of policy-level appointees from all State agencies to create shared goal of hazard mitigation across Agency missions, goals, grant programs and policies. Accomplished action from 2013 SHMP.	State	Implementation	Needs to be convened more frequently to increase visibility and understanding of hazard mitigation across Agency efforts.
Resilient Vermont	A new collaboration of organizations and agencies in Vermont that are working to advance climate resilience. The Network is working to improve alignment, coordination, communication and strategic impact across a range of issues related to climate resilience.	Nonprofit	Implementation	Needs to promote itself among stakeholders to increase visibility and promote increased coordination, ultimately leading to greater implementation of flood resilience efforts across Vermont. Identified as an action in the 2018 SHMP.