1. CRAFTSBURY HAZARDS AND POTENTIAL IMPACTS

A. Hazard Identification Process

Effective mitigation efforts must be based on a rational evaluation method that answers three basic questions:

1. What bad things can happen, given the town's vulnerabilities and loss history?
2. How likely are these hazards to occur?
3. How bad could they be?

This method, which is laid out in the tables below, represents Craftsbury's attempt to inventory each known hazard, determine the likelihood of its future occurrence, and assess the community's vulnerability. By performing this analysis, we can then prioritize actions to mitigate the impacts of each of these hazards and make Craftsbury a safer place.

To answer the above questions, we assembled as much data and insight on past events that we could find. Disasters that have occurred in the Town, the larger region, and the State of Vermont can give us good information about what types of disasters we can expect in the future and what kinds of damage they might cause. However, while historical data shapes our perspective, the past losses are by no means a crystal ball for predicting future events. Climate change is already changing our weather patterns, which means that we can expect a proliferation in storm events with severe impacts as well as new challenges, like drought in summer and long winters characterized by heavy ice accumulation. Armed with historical data and a healthy respect for climate change and the unknown, the plan represents the town's best attempt to identify hazards and prepare for the future.

Craftsbury's 2005 Local Hazard Mitigation Plan identified *flooding, potential dam failures, and power outages* as the highest risks to the community. To update the plan, the Craftsbury Hazard Mitigation Work Group considered the hazards profiled in the 2018 Vermont Hazard Mitigation Plan, as well as all the hazards originally assessed in the 2005 Craftsbury Plan. The Work Group revised priorities from the 2005 plan along these guidelines:

- **Events vs. Impacts:** Instead of continuing to view hazards as events (such as hurricanes or tornadoes), the Vermont Hazard Mitigation Plan assesses the *impacts of events* (e.g. inundation flooding, fluvial erosion). This is a logical way to assess hazards, since it is the impacts, not the events, that can be mitigated. For example, while tornadoes are not as common as microbursts in Vermont, both events can produce powerful winds that damage structures and bring down trees.
- **Natural vs. Man-made:** Man-made disasters in local plans, such as acts of terrorism, are not reviewed by FEMA or Vermont Emergency Management staff. In fact, FEMA does not provide mitigation funds for man-made hazards. While man-made hazards are certainly not insignificant concerns, the Craftsbury Hazard Mitigation Work Group felt that it was prudent to prioritize its time and resources on natural hazards and address man-made hazards through other more appropriate channels, such as regional emergency preparedness exercise and the Local Emergency Operations Plan. Nevertheless, some "hazards" considered in Craftsbury's previous plan should be considered as *vulnerabilities* to natural hazards. Water supplies, for example, are more prone to contamination during periods of drought. High and damaging winds can lead to power failures.

It is important to note that since the development of its 2005 plan, Craftsbury remains a rural community marked by low-density rural development. While the town is one of the few communities in Orleans County to experience a population increase in the most recent Census, *learned experiences,* rather than changes in development patterns, have reshaped hazard planning priorities. At the time the original plan was adopted, few could anticipate the myriad impacts of climate change, the introduction of invasive and non-native species, rising temperatures, and increasingly erratic weather patterns. Moreover, the likelihood of a global pandemic and its crippling impact on nearly every aspect of daily life was purely hypothetical.

Table 1.1: Craftsbury Hazards, 2005 vs. 2022

Hazards originally considered in 2005	…are now considered
Tornado (wind sheers, microbursts) Power failures High winds Hurricane	Wind *(with power failures a vulnerability of winds and ice)*
Flood Flash Floods Hurricane Dam Failure	Fluvial inundation Fluvial erosion *(with dam failures a vulnerability of flooding or possibly earthquakes)*
Winter storm/Ice Structure fires	Snow Ice Cold *(with structure fires a vulnerability of a heating season)*
Drought Water Supply contamination	Drought, *with water supply contamination a vulnerability of drought*

Craftsbury's Plan from 2005 also evaluated wildfires, earthquakes, and landslides, which are also evaluated in the 2018 Statewide Hazard Mitigation Plan. Additional hazards – heat, invasive species, infectious disease outbreak, and hail – were not included in Craftsbury's 2005, but were evaluated in the Statewide Hazard Mitigation Plan. The Work Group then evaluated a list of hazards using the same methodology to determine their highest priority hazards:

Probability x Average impact score = Overall Score

Table 2.2: Probability and Impact Scoring

Score	Probability
1	**Unlikely**: <1% probability in any year
2	**Occasionally**:, 1-10% of occurrence in any year; at least 1 chance in 100 years
3	**Likely**: >10% but < 75% in any year; at least one chance in next 10 years
4	**Highly likely**: >75% in any given year

Score	Impact
1	**Negligible**: isolated occurrences of minor property and environmental damage, potential for minor injuries, no to minimal economic disruption
2	**Minor**: isolated occurrences of moderate to severe property and environmental damage, potential for injuries, minor economic disruption
3	**Moderate**: severe property and environmental damage on a community scale, injuries or fatalities, short-term economic impact
4	**Major**: severe property and environmental damage on a community or regional scale, multiple injuries or fatalities, significant economic impact

Table 1.3 All Hazards Assessed

Hazard Impact	Probability	Potential Impact					
		Infra-structure	Life	Economy	Environment	Avg.	Score
Infectious disease outbreak	4	4	3	4	2	3.25	**13**
(Inundation) Flooding	4	2	3	3	4	3	**12**
Fluvial Erosion	4	3	2	2	4	2.75	**11**
Ice	4	3	2	3	2	2.5	**10**
Wind	4	4	2	2	2	2.5	**10**
Wildfire	3	3	3	2	3	2.75	**8.25**
Drought	3	3	1	3	3	2.5	**7.5**
Cold	4	2	2	2	1	1.75	**7**
Invasive Species	4	1	1	2	3	1.75	**7**
Hail	4	2	1	3	1	1.75	**7**
Snow	4	3	1	1	1	1.5	**6**
Heat	3	1	2	2	1	1.5	**4.5**
Landslide	1	1	1	1	2	1.25	1.25
Earthquake	1	1	1	1	1	1	1

The highest risks to the town (risks to be profiled) were those with an overall score of four or higher. Each of the "priority" hazards will be profiled to identify the following factors in accordance with FEMA requirements. Landslide and earthquake have a low probability and will not be profiled.

- **Location**: General areas in community that may be vulnerable to the hazard.
- **Vulnerability**: Community structures, systems, populations, or other assets as defined by the community that are susceptible to damage and loss from hazard events.
- **Extent**: The strength or magnitude and details of the most notable event(s).
- **Observed impact**: Financial impact from an event, and/or the number of structures that are impacted.
- **Likelihood/Probability**: Occasionally: 1-10% of occurrence in any year; at least 1 chance in 100 years; Likely: >10% but < 75% in any year; at least one chance in next 10 years; Highly likely: >75% in any given year

B. Hazard-Specific Information for Profiled Risks

Infectious disease outbreak: The highest ranking is largely due to our recent experiences with COVID, which was responsible for major community-scale disruption of the Town's infrastructure and economy. Essential services, government operations, schools and businesses were severely disrupted, requiring rapid implementation of safety protocol to continue critical operations. Healthcare services and critical facilities such as the Craftsbury Community Care Center were strained. A pandemic brings moderate to severe community-scale impacts to life and safety, and it's possible that COVID deaths in Orleans County were underreported. We've also learned that a pandemic can disrupt the supply chain and curtail local business and employment activity, resulting in food insecurity. There are also concerns about moderate to severe isolated impacts to the environment from increased use of plastics and disposal of hazardous wastes during COVID. Warmer seasons means that there is an increased likelihood of vector-borne disease among and between humans and wildlife, such as Lyme and wasting disease.

Inundation Flooding: This is the type of flooding that occurs when heavy precipitation and ice jams cause streams to spill over into adjoining low-lying lands called floodplains. This risk is associated with

moderate to severe community scale impact to life, economy and environment due to damage to personal property, businesses, and business disruption. Major community-scale environmental impacts may be due to sedimentation deposit, loss of crops and loss of water quality. There is also potential for moderate to severe, but isolated damage to infrastructure, particularly roads. Inundation is less likely to cause damage than erosion, but certain roads can still be impassable due to standing water. Craftsbury has a history of loss of personal property due to water surrounding a home. Dam failure remains a possibility.

Fluvial erosion: The Agency of Natural Resources estimates that inundation flooding areas have only been mapped for about 20% of Vermont's stream miles. A more common mode of flood damage is associated with shifting stream channels. These adjustments are often due to bed and bank erosion, debris and ice jams, or structural failure of or flow diversion by man-made structures. This explains why Vermont's flood-related losses often occur outside of the mapped floodplains.

Fluvial erosion can lead to moderate to severe community-scale damage to infrastructure, which includes washed out roadways. There also can be major community-scale impacts to environment, which includes collapse of streambanks, and severe disruption of riverine habitat. Increased sedimentation loads can damage water quality. There are moderate-to-severe threats to personal safety, private property, and businesses from structural damage, but these are likely to occur on an isolated scale.

Ice: The storm of 1998 is the most memorable ice event in the region, followed closely by an ice storm in 2013. Both resulted in federal disaster declarations in Orleans County. Ice accumulation is becoming a regular concern for winter weather, especially with rapidly fluctuating temperatures in winter months. Ice accumulation can lead to moderate to severe community-scale damage to infrastructure and economy, which includes downed trees and power lines, dangerous roadways, and extensive power outages that lead to closure of schools, services, and businesses. (E.g. outdoor recreation can be severely hampered by ice.) Ice accumulated can also lead to isolated but moderate to severe impacts to trees and plant life. Isolated but moderate to severe impacts to life and safety because of dangerous roadways and risks of falls.

Wind: In our region, highly damaging winds are commonly associated with microbursts, but wind damage can occur year-round. The late October storm in 2019 caused extensive power outages throughout the Town. Wind can cause major community-scale damage potential to infrastructure, including downed trees on roadways. High winds to lead to moderate to severe, but isolated damage to personal property. Likely impacts are loss of power, which can also cause residents to lose water. There is a potential for injuries from wind-born debris and falling trees and downed power lines. Economic and social disruption from power outages includes school and business closings and loss of critical services.

Wildfire: Fire danger ratings are determined by forest fuel conditions, recent weather conditions, and various fire start risk factors. During non-snow periods of the year, the Department of Forests, Parks and Recreation monitors forest fire danger levels daily. Early snow melt, drought and/or dry conditions in the spring, and wind gusts all contribute to fire risk. Open burn permits are required in every town, but routine disregard of regulations contribute to risk. Potential impacts include moderate to severe community-scale damage to town infrastructure, personal safety, as well as loss of wildlife and wildlife habitat. There is a chance for moderate to severe, but isolated, damage to the economy (e.g. outdoor recreation and forestry operations). Actively managed forestry lands may be less prone to risk.

Drought: This hazard is a complex phenomenon because it develops slowly and can have lingering effects long after the official drought declaration has ended. There can be moderate to severe community-scale damage to infrastructure, economy, and the environment include drinking water supplies, which are more likely to become undrinkable due to high concentrations of contaminants. There is the potential

for damage to crops, livestock and forestry operations. Drought weakens or kills wildlife. The dieback of vegetation and risk of wildfire threatens wildlife habitat.

Cold: There is potential for isolated, yet moderate-to-severe impacts to infrastructure, life, and economy. Burst pipes, schools or businesses disrupted. Car batteries can die, stranding people. There is an increased risk of structure fires (which tend to occur during heating season.) Extreme cold can mean disruption to outdoor recreation. Unseasonably cold temperatures can damage agricultural crops. Lower income people are more likely to be "energy-burdened" and particularly vulnerable to cold, because that they spend a disproportionate amount of their income on heating.

Invasives: There is potential for isolated but moderate to severe damage to agriculture and forestry. Moderate to severe community scale damage to the environment includes the loss of local species to invasives. The Vermont Department of Fish and Wildlife property next to the Little Hosmer boat launch has been designated as a Japanese Knotweed Demonstration Area. The Craftsbury Conservation Commission has been documenting the occurrence of the invasive plant and implementing several control methods. This infestation at the demonstration site is a prime example of the hazards associated with invasive plants - the soils are unstable leading to potential washout. There might be infrastructure and private property impacts from invasives. Downed trees from Emerald Ash Borer are a possibility, and the town may have to consider ways to avoid trees falling into roadways and trails.

Hail: This can have moderate to severe community-scale economic impact. While there can be some isolated occurrences of damage to infrastructure, such as town vehicles, hail can be devastating to growers, since a single event can wipe out a whole season's worth of business.

Snow: Generally, people in Craftsbury are used to heavy snowfall. Businesses don't shut down because of snowfall. The likeliest impacts are short-term but moderate to severe impact to infrastructure on a community scale, because roadways are not passable during a storm. A heavy snowfall in 2007 caused a barn roof to collapse, killing several cows. A long-term *decrease* in snowfall is damaging to the recreation economy. An event at the Craftsbury Outdoor Center was recently cancelled. A long-term loss of snow cover in winter can mean a loss of insulation against extreme cold. An early loss of snow cover can contribute to a miserable mud season.

Heat: A Vermont Department of Health study shows that visits to the emergency room increase eightfold when the temperature hits 87 degrees F. There are possible moderate to severe impacts in isolated cases for human health, and children, elderly, and people with underlying conditions are especially vulnerable. While there are moderate to severe impacts in isolated cases for the economy, (e.g. raising of livestock and outdoor recreation), hot weather can be a boon to agricultural crops – as long as there is plenty of water. Increased heat raises the possibility of cyanobacteria blooms, an environmental and health risk.

C. Hazard Specific Information for Non-Profiled Risk

Landslide: Typically associated with mountainous regions, cut slopes from earth extraction (a man-made activity), or loss of vegetation (possibly due to invasive species) Landslides can be exacerbated by streambank erosion, but low eroding banks are adequately captured by floodplain and fluvial geomorphic mapping. For purposes of this plan, it may be best to keep these concepts separate from flood hazards and focus on really high and steep embankments, such as the rock lined portion along Route 15 just at the entry to downtown Hardwick. There is nothing similar in Craftsbury. Possible impact(s): Moderate to severe environmental damage in isolated incidents, e.g. deposit of sediment into waterways and loss of vegetation.

Earthquake: Highly unlikely in this region. Impacts to be felt would be mild tremors at best and would not cause damage or injury.

2. PROPOSED MITIGATION STRATEGIES

A. Mitigation Goals

- Prevent/reduce the loss of life and injury resulting from all-hazard events.
- Prevent/reduce the financial losses and infrastructure damage incurred by municipal/residential, agricultural, and commercial establishment due to disasters.
- Include hazard mitigation planning in the municipal planning process, including the Town Plan, municipal budget, and Local Emergency Management Plan.
- Ensure the general public is part of the hazard mitigation planning process.

B. Evaluation of Proposed Mitigation Strategies

In support of these goals, the Craftsbury Hazard Mitigation Planning Team presented a set of proposed mitigation actions for consideration in a widely publicized public meeting on May 24, 2022. To obtain FEMA approval for this proposed hazard mitigation plan, the team was required to identify and analyze a comprehensive range of specific mitigation actions. To make this analysis objective, the team used a ranking process for each proposed mitigation action, assigning a score of 1 (poor) to 5 (excellent) for each of the following criteria:

- **Social**: The proposed mitigation action doesn't hurt anyone, and it's compatible with social and cultural views.
- **Technical**: The proposed mitigation action reduces losses in the long-term with minimal secondary adverse impacts.
- **Administrative**: We have capacity (paid or volunteer staffing and funding to carry out the proposed mitigation action.
- **Political**: Everyone is behind the proposed mitigation action. There is broad public consensus.
- **Legal**: Whoever is carrying out the proposed mitigation action has the authority to do it.
- **Economic**: The proposal mitigation action is cost-effective.
- **Environmental**: The proposed mitigation action is environmentally sound.

Based on overall scoring, the Craftsbury Hazard Mitigation Planning Team grouped proposed mitigation actions into three categories for implementation:

- **Near-term**: Mitigation strategies that can be readily implemented within the next 24 months because the capacity and funding are already in place, and there is widespread support. This also includes strategies that are ongoing efforts.
- **Mid-term**: Mitigation strategies that could be implemented within the next 24 months, but will require research, technical support, funding, public buy-in, or all of the above.
- **Long-term**: Mitigation strategies that could be implemented within the next 24-60 months, and may take longer due to their complexity or the need for research, technical funding, or public buy-in.

A mid- or long-term prioritization does not mean that the proposed mitigation action has less value to the community. Proposed actions with questionable value or too many obstacles for implementation

were ultimately not included in this plan. This ranking ultimately balances a consideration of readiness with potential benefit to the community. More information on the ranking process is available in Appendix A.

Proposed mitigation actions marked with an asterisk reflect strategies already identified in the 2016 Craftsbury Town Plan.

Table 2.1 Proposed Mitigation Actions

All Hazards			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Explore a backup power source for the Primary Local Shelter (Craftsbury Academy)	Academy School Board	Near-term (within 24 months)	FEMA grant programs
Explore backup generation for the water system on the Common in support of emergency sheltering capacity	Fire District #2	Mid-term (within 36 months)	FEMA grant programs; Cost-benefit should be explored.
Identify alternate emergency shelter(s) for the Town closer than the North Country Union High School	Selectboard	Near-term (within 24 months)	FEMA grant programs, NVDA, Statewide Local Emergency Planning Commission
Ensure that the Local Emergency Management Plan is kept up-to-date.* Keep emergency information on the Town Web site current.	Selectboard	Near-term (within 12 months, and then every year)	NVDA In conjunction with the annual LHMP review.
Ensure residents have timely information about solid waste disposal options.	Neighbor to Neighbor	Near-term (ongoing)	Lamoille Regional Solid Waste Management District
Establish a permanent location for the Craftsbury satellite food pantry. Identify equipment, storage, and capital needs.*	Hardwick Area Food Pantry	Long-term (36-60 months)	NVDA community health planner; Feasibility studies are needed. Grant funding opportunities include Municipal Planning Grant, Vermont Community Foundation;
Integrate the operations of Neighbor to Neighbor into the Local Emergency Management Plan.	Selectboard/Neighbor to Neighbor	Near-term (within 12 months, then ongoing)	
Flooding and Fluvial Erosion			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Support flood mapping updates and review new flood map information as it becomes available.	Planning Commission	Long-term (24-60 months)	Agency of Natural Resources, NVDA – Both will provide technical assistance

Continue to identify and map Craftsbury's natural flood protection assets, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forest areas.*	Planning Commission	Near-term (ongoing)	Agency of Natural Resources; floodready.vermont.gov;
Review the flood regulations to ensure continued compliance with the National Flood Insurance Program.	Planning Commission	Mid-term (36 months)	Agency of Natural Resources, NVDA, basin planners; grants include Municipal Planning Grants, and 604(B) water quality programming
Consider regulations that will protect erosion-prone and floodwater storage areas from additional development and encroachment.*	Planning Commission	Long-term (36-60 months)	Agency of Natural Resources, NVDA, basin planners; grants include Municipal Planning Grants, and 604(B) water quality programming
Continue to meet Vtrans Road and Bridge standards. *	Road Foreman	Near-term (ongoing)	NVDA training and technical assistance and programs include Road Foreman Trainings, Transportation Advisory Committee
Continue updating of the Town's transportation infrastructure information in the Vermont Online Bridge and Culvert Inventory Tool.*	Road Foreman	Near-term (ongoing)	NVDA training and technical assistance and programs include Road Foreman Trainings, Transportation Advisory Committee; Better Back Roads
Identify and replace undersized and failing culverts. *	Selectboard/Road Foreman	Near-term (ongoing)	Grants include FEMA, Better Back Roads, Grants-in-Aid
Ensure proper training and outreach regarding development in flood hazard areas, including forms of development exempt from local regulation, such as required agricultural practices. *	Planning Commission	Long-term (36-60 months)	Agency of Natural Resources; floodready.vermont.gov
Ice/Wind/Snow			
Proposed Action	Local Leadership	Timeframe	Resources/Notes
Continue the town's program to clear tree limbs, maintain town road rights of way, and protect town infrastructure.	Selectboard/Road Foreman	Near-term (ongoing)	NVDA Road Foreman trainings

Promote safe winter driving practices (e.g. keep vehicles clear of snow and ice, pack emergency supplies in car, and don't crowd the plow)	Neighbor to Neighbor	Near-term (ongoing)	Front Porch Forum and other social media; VTrans has outreach materials
Promote awareness of a winter tire access program for low-income residents with used (but still usable) winter tires.	Neighbor to Neighbor	Near-term (ongoing)	Wheels for Warmth (through Capstone Community Action)
Drought			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Disseminate the Craftsbury Groundwater Mapping project to better inform the residents who use well or spring water supplies about the quality and condition of the water sources. *	Planning Commission	Near-term (ongoing)	Already on the Conservation Commission web site.
Encourage people to enter information into the Agency of Natural Resources Drinking Water Drought Reporter by linking to it from Town web site.	Selectboard	Mid-term (next 24 months)	
Cold			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Support efforts to distribute firewood to residents in need.	Energy Committee	Near-term (ongoing)	
Make information available about low- and no-cost weatherization opportunities, as well as lending programs.	Energy Committee	Near-term (ongoing)	HEAT Squad, Northeast Employment Training Organization, Heat Saver Loans, Efficiency Vermont, USDA Direct and Guaranteed Loan programs.
Complete energy audits on Town and public structures and continue to address weatherization. Publicize results.	Selectboard, School Board, Library	Long-term (36-60 months)	Energy Committee, Vermont Energy Dashboard
Invasives			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Identify areas along roadways with severe infestation and work with	Conservation Commission/Road Foreman	Long-term (24-60 months)	NVDA Road Foreman trainings; grants, such as Better Back Roads

road crew to identify appropriate management practices.			
Support education and outreach efforts regarding best practices for lake and pond users.	Lake association(s)/ Conservation Commission	Near-term (ongoing)	Agency of Natural Resources, NVDA water quality planner
Conduct a survey of trees in public ROWs that may be impacted by Emerald Ash Borer.	Ash Tree Inventory Work Group	Near-term (currently underway)	
Snow			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Educate the public on keeping heating exhaust vents clear in the case of extreme snowfall.	Energy Committee	Near-term (12 months)	Front Porch Forum and other social media
Establish a network of volunteers to dig out residents who need help.	Neighbor to Neighbor	Near-term (ongoing)	
Heat			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Work with home health care providers and volunteers to increase awareness of heat illness.	Neighbor to Neighbor	Mid-term (next 24 months)	The Dept. of Health has grants, outreach materials, and a media toolkit. NVDA has a climate health planner.
Identify elders at risk in a heat emergency and identify spaces/buildings where they may find relief from heat.	Neighbor to Neighbor	Mid-term (next 24 months)	The Dept. of Health, NVDA climate health planner, NEK Council on Aging
Make information available about DIY cooling strategies.	Energy Committee	Near-term (next 12 months)	The Dept. of Health and NVDA can assist with outreach.
Wildfire			
Proposed Action	**Local Leadership**	**Timeframe**	**Resources/Notes**
Maintain existing dry hydrants by checking and servicing them annually.	Fire Department	Near-term (ongoing)	Grant funds are available, which allow the Fire Dept. to do this every year.
Post information about fire danger levels and the need for burn permits.	Selectboard/Town Web Site Content Manager	Near-term (currently underway)	Campaigns can be seasonal and/or deployed around drought. Front Porch Forum and other social media can be useful.
Issue fines for burn violations.	Selectboard/Fire Warden	Mid-term (24-60 months)	

Table 2.2: Update on Mitigation Actions from 2005 Craftsbury All-Hazards Plan

When determining the proposed mitigation actions for the 2022 plan, the Hazard Mitigation Team also evaluated the Mitigation Needs by Priority from the original plan.

Project/Priority	Mitigation Action and Initial Steps	Update
Emergency generators for backup power for critical facilities – HIGH	Provide power to residents in emergency shelters because power can go out for days at a time. Generators will also need to pump water to shelters. Seek cost options.	The 2022 plan has a proposed mitigation action to explore a backup power source for the Primary Local Shelter (Craftsbury Academy) and explore backup generation for the water system on the Common in support of emergency sheltering.
Properly equipped shelter – HIGH	Needed for mass sheltering when outside help is not accessible. A mobile shelter will be explored.	Although a mobile shelter was not deemed cost-effective by the hazard mitigation team, the 2022 plan has a proposed mitigation action to identify alternate emergency shelter(s) for the Town closer than the North Country Union High School.
Larger generators at Sterling College and Sports Center (*sic* Craftsbury Outdoor Center) – not prioritized.	Provide power to residents in emergency shelters because power can go out for days at a time. Generators will also need to pump water to shelters. Seek options.	

Table 2.2: Status of Community Resources and Capabilities

Resource	Description	How it can help implement Hazard Mitigation Goals	Status
Craftsbury Town Plan	Plans for coordinated town-wide planning for land use, municipal facilities. It also establishes the legal basis for flood hazard regulations.	Addresses flood resilience, which became a statutory requirement in 2014.	The Town Plan is current but is set to expire in 2024. Amendments to the plan should incorporate relevant findings from this plan.
Craftsbury Planning Commission	Drafts amendments to the town plan and flood hazard regulations.	Helps to keep flood risks at the forefront with the general public and ensures ongoing participation in the National Flood Insurance Program.	Outreach to public to create awareness of regulations and their role in hazard mitigation may improve effectiveness of the regulations. Trainings and outreach from the Agency of Natural Resources and the regional planning commission would be helpful. Regulations are more than two decades old, and FEMA can update the interpretation of its own standards from time to time. Now would be a
National Flood Insurance Program (NFIP), compliant since 5/02/2000	Enables all residents in Craftsbury to obtain flood insurance, whether or not a structure is located in a mapped flood hazard area. The effective date of the most recent Flood Insurance Risk Map is 11/19/1976, and there are currently 3 policies in effect with a collective total coverage of	Covers damage caused by flooding and informs residents of flood risk. Effective in ensuring that future development is safe from flooding.	

	$169,000. FEMA records show that there are no claims paid and no repetitive loss structures.		good time to ask the Agency of Natural Resources (NFIP Coordinator) for a technical review of the regulations.
Flood Hazard Regulations Administrator	Ensures compliance with zoning and flood hazard regulations.	Implements the local flood regulations to minimize flood hazard risk.	
Neighbor to Neighbor (N2N)	An official town task force with the mission of aiding and supporting the community during times of distress. N2N also addresses and supports ongoing resiliency work in the community during "usual" times.	N2N can address the human side of disaster management by delivering food and supplies to vulnerable populations, providing information about available resources, identifying gaps in services and finding ways to address them, and making food and emotional support to anyone who needs it.	VEM updated the LEMP process in 2019 to allow more flexibility and incorporate more planning resources. The role of Neighbor to Neighbor in responding to the social welfare issues created by disasters should be documented in the plan.
Local Emergency Management Plan (LEMP)	Basic municipal procedures for emergency response. This gets updated annually.	The LEMP outlines procedures for call-outs, evacuations, etc.	
Energy Committee	The Town Energy Committee's mission to help guide the town and its citizens into a more sustainable energy future.	Members can assist with outreach regarding effective weatherization opportunities, as well ways to improve cooling and ventilation in the home.	Regional organizations like HEAT Squad and Northeast Employment Training Organization can help with outreach.
Conservation Commission	The major goal of the Conservation Commission is to encourage responsible stewardship of Craftsbury's natural and cultural resources.	The commission has held workshops on identification as well as removal techniques for various species. The commission has also provided a 'field guide to invasive plants' for the Craftsbury Road Crew.	Representation on the local hazard mitigation team will assist with coordination of hazard mitigation actions.
Regional Emergency Management Committee (REMC)	Volunteer organization involved in hazard mitigation efforts.	In 2021, the REMC replaced the two Local Emergency Planning Committees in the Northeast Kingdom with one organization to focus on natural AND man-made disasters, such as hazardous materials release. The Local	We anticipate that a broader regional process will be more efficient. Since this is a relatively new board, local representatives to the board should monitor for necessary improvements to the planning process, as they arise.

		Emergency Management Director and one emergency services representative from each town and city in the region shall serve as the voting members of the committee.	
Municipal Roads General Permit (MRGP)	State standards have been updated to include the MRGP to control runoff and drainage on hydrologically connected road segments. Compliance is being phased in over time.	Effective in controlling road erosion and stormwater runoff. Provides funding sources for compliance.	Work with regional planning commission to pursue grant opportunities to implement recommended improvements.
Infrastructure & Road Maintenance Programs	Town Bridge and Culvert Inventory	Effective in tracking and planning for upgrades to most vulnerable infrastructure	Technical assistance from the regional planning commission can be helpful.
State Road and Bridge Standards	The Town complies with design and construction standards for roads, bridges, and drainage structures.	Effective through their continued implementation.	Continued implementation is critical to effectiveness. No improvements to be made by the Town.

When evaluating proposed hazard mitigation actions, the Craftsbury Hazard Mitigation Team used a version of the STAPLE+E which assigns a score of 1 to 5 on seven factors:

- Social: It doesn't hurt anyone, and it's compatible with social and cultural views
- Technical: It reduces losses long-term with minimal secondary adverse impacts
- Administrative: The staffing and funding to do it is there
- Political: Everyone's behind it
- Legal: Whoever is doing it has the authority to do it
- Economic: It's cost effective
- Environmental: It's environmentally sound

1. Poor
2. Below average/Unknown
3. Average
4. Above Average
5. Excellent

All Hazards								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Explore a backup power source for the Primary Local Shelter (Craftsbury Academy)	4	4	4	4	4	4	2	4
Explore backup generation for the water system on the Common in support of emergency sheltering capacity	5	3	2	2	5	2	2	3
Identify alternate emergency shelter(s) for the Town closer than the North Country Union High School.	5	5	4	5	5	5	5	5
Ensure that the Local Emergency Management Plan is kept up-to-date.* Keep emergency information on the Town Web site current.	5	5	3	5	5	5	5	5
Ensure residents have timely information about solid waste disposal options.	5	5	5	5	5	5	5	5
Establish a permanent location for the Craftsbury satellite food pantry. Identify equipment, storage, and capital needs.*	4	5	3	4	5	3	5	4
Integrate the operations of Neighbor to Neighbor into the Local Emergency Management Plan.	5	5	5	5	5	5	5	5

Flooding and Fluvial Erosion								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Support flood mapping updates and review new flood map information as it becomes available.	3	5	5	3	5	3	5	4
Continue to identify and map Craftsbury's natural flood protection assets, including floodplains, river corridors, land adjacent to streams, wetlands, and upland forest areas.*	4	4	4	4	5	3	5	4
Review the flood regulations to ensure continued compliance with the National Flood Insurance Program.	4	4	4	3	5	4	4	4
Consider regulations that will protect erosion-prone and floodwater storage areas from additional development and encroachment.*	3	5	4	3	5	4	4	4
Continue to meet VTRANS Road and Bridge standards. Participate in regional road foreman trainings and Transportation Advisory Committee meetings to stay abreast of flood resilience measures for the Town's roads and bridges.*	5	4	2	5	5	3	4	4
Continue updating of the Town’s transportation infrastructure information in the Vermont Online Bridge and Culvert Inventory Tool.*	5	5	5	5	5	5	5	5
Identify and replace undersized and failing culverts.*	5	5	3	5	5	5	4	5
Ensure proper training and outreach regarding development in flood hazard areas, including forms of development exempt from local regulation, such as required agricultural practices.*	4	5	2	3	5	3	4	4

Ice/Wind/Snow								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Continue the town's program to clear tree limbs, maintain town road rights of way, and protect town infrastructure.	4	4	5	4	5	3	3	4
Promote safe winter driving practices (e.g. keep vehicles clear of snow and ice, pack emergency supplies in car, and don't crowd the plow).	4	4	2	4	3	4	4	4
Promote awareness of a winter tire access program for low-income residents with used (but still usable!) winter tires.	4	4	2	4	3	4	4	4
Drought								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Disseminate the Craftsbury Groundwater Mapping project to better inform the residents who use well or spring water supplies about the quality and condition of the water sources.*	5	5	5	5	5	5	5	5
Encourage people to enter information into the Agency of Natural Resources Drinking Water Drought Reporter by linking to it from Town web site.	4	4	2	4	4	4	4	4
Cold								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Support efforts to distribute firewood to residents in need.	5	5	5	5	5	5	5	5
Make information available about low- and no-cost weatherization and lending programs such as HEAT Squad and Northeast Employment Training Organization (NETO), and USDA Rural Development.	5	5	5	5	5	5	5	5
Complete energy audits on Town and public structures and continue to address weatherization. Publicize results.*	5	4	2	5	5	5	5	4

Invasives								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Identify area along roadways with severe infestation and work with road crew to identify appropriate management practices.	5	5	3	5	5	2	5	4
Support education and outreach efforts regarding best practices for lake and pond users.	5	5	3	5	5	2	5	4
Conduct a survey of trees in public ROWs that may be impacted by Emerald Ash Borer.	5	5	5	5	5	5	5	5
Snow								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Educate the public on keeping heating exhaust vents clear in the case of extreme snowfall.	5	5	5	5	5	5	5	5
Establish a network of volunteers to dig out residents who need help.	5	5	5	5	5	5	5	5
Heat								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Work with home health care providers and volunteers to increase awareness of heat illness. The Vermont Department of Health has outreach and training materials to spot the symptoms of heat illness and administer first aid.	5	5	3	5	5	5	5	5
Identify elders at risk in a heat emergency and identify areas where they may find relief from heat.	5	5	2	5	5	4	5	4
Make information available about DIY cooling strategies.	5	5	5	5	5	5	5	5

Wildfire								
Proposed Mitigation action	Social	Technical	Admin	Political	Legal	Economic	Environmental	Total
Maintain existing dry hydrants by checking and servicing them annually.	5	5	5	5	5	5	5	5
Post information about fire danger levels and the need for burn permits.	5	5	5	5	5	5	5	5
Issue fines for burn violations.	3	4	5	2	5	5	5	4