

Resilient Vermont- Local Leaders Focus Groups Report

Prepared by Sarika Tandon for the Institute for Sustainable Communities

Between July 30 and August 7 2013, the Institute for Sustainable Communities, in partnership with Two-Rivers Ottauquechee, Central Vermont, Windham, Bennington, Chittenden, and Addison County Regional Planning Commissions Regional Planning Commissions, convened 6 focus groups for municipal, local nonprofit and business leaders. The purpose of these sessions was to elicit feedback on some of the major issues related to resilience building at the local level in Vermont. This report provides a summary of findings from the Resilient Vermont Focus Group sessions, and includes a detailed report from each meeting.

Methods:

160 leaders were identified by their local Regional Planning Commissions and invited to attend a session in their region. A total of 50 participants representing 31 different municipalities, and a dozen nonprofits and businesses attended the 6 Focus Group Sessions. Meetings were held at three locations, with a daytime and evening meeting at each location to accommodate the diverse schedules of both paid staff and volunteer leaders. The sessions were attended by a staff member of one of the host Regional Planning Commissions, whose primary function was to observe the process. The following table summarizes the types of participants that participated in the focus groups.

| POSITION OR ROLE OF FOCUS GROUP PARTICIPANT* | TOTAL |
|--|-------|
| Planning Commission Member | 12 |
| Regional Planning Commission | 12 |
| Emergency Manager/LEPC Member | 9 |
| Energy Committee Member | 9 |
| Nonprofit Environmental Organization | 8 |
| Nonprofit Housing/Community Organization | 8 |
| Zoning Administrator | 8 |
| Town Manager | 7 |
| Selectboard or City Council | 6 |
| Long-term Recovery Committee | 4 |
| Business Owner | 3 |
| Conservation/Environmental Commission | 3 |
| Town Planner | 3 |
| Fire Department | 3 |
| Other (ie, school board, town clerk, public works) | 9 |

*Note: Many participants represented more than one role.

Each session consisted of a two hour meeting in which leaders were asked to share their thoughts about the needs and constraints to building resilience in Vermont at the local level. After a brief background about the Resilient Vermont project and introductions, participants were asked to comment specifically about three major issue areas: Emergency Management, Infrastructure, and Land Use. At the end of the focus group meetings, participants were asked if

there were any issues missing from the discussion, and were also provided with an online survey link to create an anonymous forum for additional feedback.

Summary of Findings

Cross-Cutting themes

There were several cross-cutting themes that emerged from these sessions. The themes listed below emerged in a majority or all of the sessions and were mentioned in all three of the issue areas: Emergency Management, Infrastructure, and Land Use.

- Local control comes with many challenges but Vermonters do not want to give it up. Any solutions put forward have to respect Vermont's political culture.
- Educating the public about flood risk, emergency management, and infrastructure is imperative to create tolerance for changes in policy to build resilience whether that is at the municipal or state level. Education is also required to better guide individual actions and decisions.
- Lack of local level capacity is a concern not only in small villages with all volunteer governments but also in cities with paid municipal staff. The lack of 'institutional memory' in dealing with the three issue areas was a major concern for local leaders.
- Regionalizing some efforts related to the three issue areas could be more effective than having each municipality deal with it on their own.
- There was a great deal of support for improving the staff and financial capacity of Regional Planning Commissions to fill some of the gaps in municipal capacity and to strengthen regional planning and coordination functions.
- Actively working to bringing new people, and especially the younger generations, into municipal leadership and volunteer positions is highly important.

Summary of Findings by Issue Area

Emergency Management

- The lack of cellular and broadband access during an emergency is a major impediment to emergency response and recovery capabilities.
- Improved communication between the different levels of the emergency management structure is required- both horizontally and vertically.
- There is a need for improved training and community awareness for the public, local Selectboard members, and emergency managers. There was specific concern regarding the lack of knowledge in many communities about who is in charge, who to call, and what local structures are in place during crisis situations.
- Leaders urged for increased attention to more diverse risks, including flood risks related to feeder streams, beaver dams, and the many risks we face that are not flood-related.

- Coordination of state agencies in their messaging during emergency response and recovery was also thought to be lacking, both between different state agencies, and within individual agencies. Participants spoke about receiving mixed messages from the state.
- There is a need to preserve and disseminate the knowledge generated after Tropical Storm Irene.
- Hazard Mitigation plans were overall not considered to be useful in helping to build resilience, although in a few cases these plans were being used proactively.

Infrastructure

- Roads, communications, electrical lines, culverts, stormwater, septic and sewer systems were described as major concerns.
- The lack of cellular and broadband access in major parts of the state was a common theme.
- There is a major lack of funds to ‘invest for resilience’.
- Infrastructure damage in some parts of the state followed the FEMA floodplain maps, but in other parts it didn’t.
- There was a desire for more information on risk to infrastructure based on different flood hazards (inundation and fluvial erosion hazards).
- Road standards were considered to be too low for current and future hazards.
- There was discussion about the lack of resources to maintain the existing amounts of infrastructure and some interest in exploring strategic disinvestment in certain infrastructure that has been damaged in disaster situations. The political difficulty of doing so was also discussed.
- There was concern about how FEMA incentivizes rebuilding in the floodplain by providing funding.
- The importance of maintaining redundancy in the roads system was highlighted particularly in relation to disaster situations.
- Lack of capacity at the town level was considered a much bigger problem than lack of technical assistance, although there was a stated need for better training and technical assistance.
- Tracking infrastructure assets, upgrades, and repairs was considered to be important, as well as the capacity and training to do this well.
- Maximizing the services of natural systems for flood attenuation and stormwater management were discussed as a way of decreasing strain on water, wastewater and sewer systems.
- Identifying locations for back-up housing in emergency situations was identified as a need.
- Respecting the specific needs of vulnerable communities, particularly in relation to housing was a concern.

Land Use

- Creating a more regionalized/watershed perspective to inform land use decisions was a popular idea, but the groups were unclear about how to do this.
- There was strong support for reducing development in floodplains, and moderate support for not rebuilding damaged property in floodplains.
- 5 out of 6 groups generally did not wish there to be more state regulation of floodplains.

- Constraints to increased state regulations included the culture of local governance, and the loss of land value to owners.
- There was an interest in stricter floodplain regulations if this change was mandated from the bottom up, and was demanded by the public.
- Participants requested more guidance from the state about a menu of options illustrating best management practices in managing flood prone areas.
- There was a strong call for public education about river dynamics and flood hazards.
- Local floodplain control, although the most popular idea, was widely recognized as insufficient due to difficulty local leaders have in enforcing rules ‘neighbor against neighbor’, and telling people what to do in their backyards.
- The groups did express a tolerance for an increased state role in enforcement of zoning or floodplain regulations.
- Stormwater infiltration was identified as a concern, and interest was expressed in increasing permeable surfaces, and encouraging onsite infiltration.
- ‘Current use’ mechanisms and purchase of development rights were suggested as ideas for preserving undeveloped land in floodplains.
- Increasing time horizons for local and regional plans was suggested as a way to make plans more resilient.
- There was general concern about the lack of local accountability for poor floodplain choices.
- Solutions should be scalable and individualized to a community’s special needs, geography, and features.

Summary of Findings by Focus Group Session

Below are detailed summary reports from the six focus group sessions. Because of the holistic nature of ‘resilience’, the conversations in each issue area almost always included other topics. In the notes below, these comments have been left in the section in which they were made. Each report lists the needs, vulnerabilities/constraints, solutions, and possible case studies that were identified in the Emergency Management, Infrastructure, and Land Use portions of the discussion. This report also identifies common themes for each session.

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Session 1- Two Rivers Ottauquechee and Central Vermont Regions

July 30, 2013

2:30-4:30 Vermont Law School

- **Emergency Management**- This conversation was far reaching and focused on all four phases of emergency management. Improved local capacity and communications were emphasized.

Needs:

- Manage surface water more effectively
- Education and communication to local officials and local response teams
- Improved communication up and down the chains of authority
- Ensure smooth transitions between the phases of emergency management (i.e. response, recovery)
- More forethought about evacuation plans for people and large animals
- Local options for sheltering and moving people to create less dependence on the Red Cross
- Look at winter situations when there might not be heat
- State help with culvert replacement (i.e. financial incentives)
- Local towns need incentives to get their emergency management plans in order
- State level support for Incident Command System (ICS) training
- More stringent floodplain management at local level
- More regional capacity for emergency management
- 'Local touch' critical during emergencies
- Manual for training emergency managers (from RPC)
- Better state level coordination
- Preparedness and mitigation planning with a watershed lens
- Adaptive solutions to a broader range of weather extremes
- Strategies for dealing with emergencies when we cannot access electricity or data systems
- Improve transportation guidelines
- Better cellular service

Vulnerabilities/Constraints:

- Lack of community understanding of ICS
- Rumors during disaster situation create a false reality
- Mountainous terrain causes dead areas in communication systems
- Selectboards don't necessarily look much at the Hazard Mitigation Plans
- Town by town approach to looking at hazards (floods)
- Plan information doesn't flow into the community, but 'sits on the shelf', these plans are often out of date and non-specific
- Volunteer boards have low capacity and lack of institutional memory
- Emergency Management isn't the 'squeaky wheel'
- Difficulty of getting past the planning phase to the implementation phase with volunteer staff
- Lack of corporate memory of ad hoc volunteer responses to emergencies

- Small communities often don't want to enforce floodplain bylaws
- Emergency management volunteers often drop off if there aren't frequent disasters
- FEMA's focus on counties doesn't mesh with Vermont's watersheds
- Planning for Hazard Mitigation is hard enough, and getting to the implementation phase is even harder
- Towns don't want to enforce their floodplain bylaws

Solutions:

- Build bridges and culverts to better standards the first time regardless of ANR and FEMA standards
- More public engagement in the discussion of town plans
- Channel disbanding volunteers from Irene Recovery into the Regional Planning Commissions.
- State could utilize Certified Floodplain Managers (CFM) to help as a response team
- Create a CFM team that covers multiple towns so that they stay active and well-practiced.

Possible Case Studies

- Bethel is doing great job with ICS and bringing interested parties together to create community understanding
- Barre directly references HMP in Master Plan
- Bethel has an independent citizens group that has divided the town into 8 regions and understands ICS
- Montpelier created Capital Area Neighborhood Networks to build social capital so people could help could check on their neighbors- used VISTA program to get this started

- **Infrastructure**- This section covered a diverse range of topics, with a strong focus on diverse flood vulnerabilities from rivers, feeders streams, and dam failures. Public attitudes, financial constraints, and the possibility of disinvestment were discussed.

Needs:

- Have skilled people evaluate infrastructure pieces such as bridges
- Improved state road standards
- Educate officials to know that FIRM maps are just minimums
- Addressing flood water
- Prioritization of where to mitigate hazards based on number of people served
- Plan responses we can afford
- Tools for return on investment and prioritization
- Help filling out grant applications (from RPC if they had capacity)
- Communicating with landowners and finding out about risks originating on their land (dams, brooks)
- Debris and gravel deposits near rivers are often protected by ANR and can be a danger to infrastructure (i.e. can be washed down the river in a flood)
- Class 4 road inventory
- Think about where to relocate mobile home parks in case of disaster

- Ballpark for capital needs to build resilience so we can have cost information and find funding sources

Vulnerabilities/Constraints:

- Power grid is centralized instead of decentralized
- Net-metered electricity cannot be used during a system outage
- State orange book with road standards based on a Q25
- A majority of damage occurred outside of flood zone
- FEMA doesn't look at upstream feeder rivers
- Over dependence on FEMA reimbursements
- Convincing public of ROI data which usually goes against conventional wisdom
- Beaver dam collapse
- Mobile home park residents do not wish to relocate
- Preplanning for relocation of infrastructure after a disaster is difficult because permits expire
- Abandoning roadways is controversial
- Plans go on shelf and don't get implemented
- Damaging impact of feeder streams
- Regional Planning Commissions have variable capacity and effectiveness

Solutions Identified:

- Consider abandoning certain bridges or roads instead of rebuilding
- State can offer pilot studies on culvert upgrades and storm resilience to help convince towns to upgrade infrastructure
- Create a 'current-use' type program that helps landowners keep land free from development with economic incentives

Possible Case studies

- None identified

➤ **Land Use-** There was strong support from this group for increasing education of the public about river dynamics and land use. The majority of people didn't agree that the state should play a stronger role in regulating land use, although one participant pointed out that the local communities couldn't do it alone. There was strong support for voluntary local control of floodplain development, although some doubted that voluntary measures would be effective.

Needs

- Find a place where people of low and moderate income can build
- Look at each community's individual needs and conditions
- Support for volunteer town officials
- Responses should be versatile and not 'one size fits all'
- Bear in mind the needs of vulnerable populations
- Solutions must be developed with input from stakeholders

Vulnerabilities/Constraints-

- Moving towns or town offices is most harmful to economically vulnerable community members
- Public concern about losing property value
- The state is setting the wrong example by rebuilding in Waterbury State Complex area
- People don't trust the flood maps and balk at restrictions
- State inability to properly regulate land use, to follow-up on problems or to enforce regulations
- Lack of state resources and capacity
- Very few Certified Floodplain Managers working at the municipal level

Solutions

- Disallow rebuilding in certain areas
- State could provide enforcement when municipal channels for controlling zoning don't work
- Stop putting development in floodplains (locally regulated)
- Analyze how well people are restricting floodplain development before we do a mandate
- Purchase of Development Rights of open floodplain areas
- Coordinate upstream and downstream planning
- Have state provide guidance to RPCs on land use management to be shared with Planning Commissions

Possible Case studies:

- None identified

Common themes throughout the session:

There was a strong preference for preserving local control and capacity in the three areas. There was dissatisfaction expressed with the state's role in all three topic areas. The role of the RPCs in helping towns was appreciated, and there was support to channel more funds to improve RPCs capacity to support their constituent communities. The importance of buy-in from local towns and citizens, and the needs of vulnerable populations were stressed. Limited local capacity was a strong theme.

Session 2- Two River Ottauquechee and Central Vermont Regions

July 30, 2013

6:30-8:30 Vermont Law School

- **Emergency Management-** This conversation focused mostly on the response and hazard mitigation phases.

Needs:

- Robust horizontal and vertical communications during emergencies
- Resources to improve communications systems
- People with expertise outside of the state structure (technical resources)

- A command center for data and information that dictates where priority resources should be directed
- Backup State Emergency Operations Center (SEOC)
- Backup plan for when phones and power are not working
- Hazard Mitigation plans should have executive summaries that identify high risk issues and how to fund them
- Better preparation for ice storms and winter events
- Every town needs an emergency management plan and manager
- Pre-identify strategies for replacement housing
- More emergency management and hazard mitigation planning

Vulnerabilities/Constraints:

- Improved connectivity and signal access in rural areas
- SEOC in vulnerable location and disabled during the most critical phase of the event
- A lot of hazards identified in local hazard mitigation plans do not qualify for FEMA Hazard Mitigation Grant funding
- Emergency shelters are in floodplains
- Children are released from schools in Montpelier during the day if there is a crisis- this can cause chaos when parents come to pick them up
- Acronyms can be exclusionary and make it difficult for people to understand what is being discussed
- Inflexibility and brittleness of local and state systems in crisis situations
- Very difficult to work with big corporate national banks when dealing with buyouts

Solutions:

- Leverage all local skills and talents in response/recovery situations through human resources mapping
- HAMM radio operators in each town
- Stockbridge has made changes in zoning districts in response to Irene Damage, and factored the Hazard Mitigation buyout program heavily into the planning process post-Irene
- Strafford has EM procedures for dealing with flooding between villages through alternate routes, traffic control

Possible Case Studies

- Model for connecting people in a town
- Ushahidi networks- GIS tool for crowd-sourcing information during a crisis situation

➤ **Infrastructure**- This conversation covered various topics including stormwater, technical support needs, and issues related to capacity.

Needs:

- Back-up power source for communities
- Stabilization of hillsides
- Funding for infrastructure upgrades
- Better maps- FEMA maps are often wrong

- Asset mapping with GIS- a database for everything the town owns- including trucks, valves, wires, culverts, bridges, as well as when they were installed, maintained, paid for, and insured
- Mandatory training programs for local roads crews
- Putting more responsibility/resources to the Regional Planning Commissions to provide technical support and training
- Regional thinking about how to share resources with neighboring towns
- Technical assistance for engineering (i.e. in some cases you need an engineer to do an NFIP complaint design when applying for a grant)
- Organize volunteers with technical expertise ahead of time

Vulnerabilities/Constraints:

- Address culvert sizing to include current and future flood risks
- Commercial power- most lines are in the woods
- Communications- cell towers can work for a certain time when power goes out but some carriers have batteries that drop out quickly
- Centralization of electrical service delivery might cause longer response times to people farthest from central hub
- Net-metering doesn't provide energy during outages
- Limited connectivity
- Culverts have to be able to carry debris during floods, and most programs can't meet the threshold to qualify for funding to do this
- FEMA doesn't always reimburse for doing things 'correctly'
- Small towns like Stockbridge don't know what they need to do to prepare because they are run by volunteers and 'lacking the organizational component'

Solutions Identified:

- Green Mountain Power and the Town of Sharon are working to get the electrical wires 'out of the woods'
- Sizing culverts to accommodate debris
- Additional technical support from TRORC
- Planning and Design grants for preparing for a grant proposal from the FEMA HMGP
- Better Backroads program provides some funding

Possible Case studies

- None identified

- **Land Use**- There was a lot of support in this group for watershed and regional level planning to bridge the activities of different towns and incorporate a larger perspective on how they might affect each other.

Needs

- Planning at the watershed scale
- More education about the services provided by unfragmented forests in flood risk management
- Policy level advocacy for watershed groups to have a say in regional planning processes
- More conversation about elevating flood regulations above FEMA requirements

- Local level restrictions on development based on how people are impacting their neighbors
- Outreach and funding for homeowners and their role in stormwater management
- Scalable solutions that can work for small villages with volunteer governments

Vulnerabilities/Constraints

- Difficulty of getting towns to come together to coordinate their planning
- People deny flood risk, especially if most recent event hasn't affected them
- Letter of map amendment is costly and requires an engineer
- Town of Berlin lifted their floodplain development regulations
- Lack of county/regional government
- Controlling downtown development can contribute to sprawl
- People unrealistically expect 'the town' to manage stormwater on their own properties

Solutions

- Implementing Low Impact Development (LID) in upstream locations
- Planning at the watershed scale
- Meshing town and regional plans
- Overlay watershed plans over regional plans
- Open up the canal-like rivers that are in downtown areas and re-landscape- idea from Herbert Deitschel
- Require mitigation to compensate when more impermeable surfaces go in
- Focus on where people can and should build instead of where they can't
- Encourage denser development in areas that currently have 10-20 acre zoning
- Identify strategies for managing stormwater at the household level

Possible Case studies

- Middlebury floodplains attenuate flood damage that could have protected the area from flooding, whereas Rutland was hit much harder by flood
- Norwich has regulations that prohibit all future development in the floodplain
- Herbert Deitschel's work with the Winooski- Upstream, Downtown program

Common themes throughout the session:

Communications limitations were a common theme. People generally were not interested in increased state involvement in flood regulation but did seem generally enthusiastic about an increased Regional Planning role in solving the various problems identified. Funding is a major limiting factor, especially in infrastructure upgrades. Stakeholders pointed out that communication with the public about the various problems and constraints is important for building support for changes. Solutions need to be scalable to make them workable for small villages with a few hundred residents and very little capacity.

Session 3-Windham and Bennington Regions

August 1, 2013

2:30-4:30 Newfane Fire Station

- **Emergency Management-** In this discussion there was a lot of agreement that community members in general don't necessarily know who to call or where to get information during an emergency situation. Communications systems were identified as a weak point, as was heavy reliance on volunteer systems.

Needs:

- Interoperability of emergency communications systems
- Importance of drilling for preparedness
- Communications with community must be improved
- Notification system for water safety issues with up to date contact information
- Improved state leadership in emergency management
- More funding for RPC's to fill the county-like role

Vulnerabilities/Constraints:

- Intensity of certification requirements and difficulty of recruitment and retention of volunteer emergency response personnel makes for thin volunteer base
- Lack of county government doesn't match up with FEMA structure
- Hazard mitigation grants require that communities have plans- even towns like Brattleboro with a professional staff are having a hard time capturing funding
- 211 system has recently changed- now people are supposed to call their Emergency Management Directors- very few people know this and very few people know who their EMD's are
- Volunteer-based systems can be strained during disasters (i.e. Fire Departments)
- During Irene response, many towns weren't able to receive support because they didn't know what was going on, or how to coordinate
- 'Do it yourself' mentality can get in the way of people coordinating their response

Solutions:

- Leverage RPC model

Possible Case Studies

- Community Facebook page for Manchester to keep people informed about response

- **Infrastructure**- 5 out of the 6 participants were familiar with their town hazard mitigation plans. No one seemed to think that these plans were used for prioritization of infrastructure upgrades, but some thought it should. All people agreed that there is a need to increase the documentation of damage to better align with funding sources. There was general agreement that most municipalities have capacity issues that interfere with their ability to do the work they're responsible for.

Needs:

- Better data recording for infrastructure damages at town level
- Working roads
- Financial resources
- Collaboration across town lines
- Increased education on civic engagement for the youth
- Examine communities to identify unexpected hazards
- Looking at hazards posed by streams and bank jumping
- Community education about limits of town services, and river science
- Changing the mindset of local leaders- the way they've always done it won't be enough
- Technical assistance is important, but what is more important is local capacity to pay attention to the issues and absorb the training

Vulnerabilities/Constraints:

- Spotty internet and cellphone coverage
- Water and wastewater systems in downtowns and villages
- Financial difficulty of sustaining downtown wastewater systems
- Lack of capital to invest in anything beyond the minimum required infrastructure
- Tax impact of large infrastructure projects on small communities
- Vermonters' cultural resistance to county government
- Culture of resistance to change, independence
- Beaver dams
- Capital improvement amounts to working on whatever you get 'a phone call' about
- The need to take the 'low-ball' infrastructure upgrade offer in order for it to be politically feasible
- Silos at state and municipal levels
- Lack of capacity at municipal level

Solutions Identified:

- Use town software (NEMRC) to track municipal damage information, make sure that all people are using the same system
- Have a town administrator who works for multiple small municipalities
- Have RPC fulfill more technical assistance and capacity filling functions for municipalities

Possible Case studies

- The Town of Putney met with multiple stakeholders to develop their town Hazard Mitigation Plan in a collaborative process

- **Land Use**- The group seemed to think that allowing individuals to freely make their own land use choices in floodplains would increase overall flood risk. At the same time, they acknowledged the unpopularity of stricter regulations on land use, such as implementing fluvial erosion hazards standards. There was strong support from this group for increasing public education about river dynamics and land use.

Needs

- Consistent information from the state
- Better zoning and planning for floods
- Public education on river science
- Help people understand the limitations of towns/state/FEMA to fix all the problems
- More planning capacity at the municipal level

Vulnerabilities/Constraints

- Amount of potential debris in individual land use choices- logs and straw bales being stored near rivers
- Individuals are building berms that increase vulnerability of neighbors
- Lack of control over individual land use decisions
- Narrow valley with steep walls in Brattleboro area
- Negative attitudes towards land use regulations
- Resistance to change
- Impending increase in NFIP rates
- Problematic land use decisions outside of floodplains
- Short planning horizons
- Lack of interest in new ideas in town offices
- State 'business as usual' attitude doesn't set the right example
- Low institutional capacity
- Lack of political feasibility of implementing fluvial erosion hazard standards at the municipal level

Solutions

- Purchase of development rights of agricultural land that hasn't been developed
- Having towns who share a watershed look at each other's plans and consider how they impact each other
- Compensation of landowners to create more space for rivers and streams

Possible Case studies

- Wilmington is talking about moving the town, have a plan from Conway school of design

Common themes throughout the session:

Municipal capacity is not high enough to meet emergency management, land use planning, and infrastructure needs. It is important to consider risks posed by smaller streams and brooks- not just major river channels. Public education about volunteerism, land use, and river science is important, as is looking at diverse risks, and institutional capacity. Most people seemed to agree that the RPC's have filled an important role and should be leveraged to help fill in capacity and training gaps. Most attendees also identified a resistance to change within the public and local leadership.

Session 4- Windham and Bennington Regions

August 1, 2013

6:30-8:30 Newfane Fire Station

- **Emergency Management-** This discussion focused heavily on the response phase of disaster management with comments about communications problems between the state and municipal leaders. The choppy transition from response to recovery after Irene was also highlighted. Participants requested a unified voice from state agencies in emergency situations.

Needs:

- To be able to act quickly and without bureaucratic obstacles during response phase
- For the state to speak with one unified voice
- Common priorities and communications during disaster situations
- Expand Incident Command System (ICS) system to the Department of Emergency Management and Homeland Security (DEMHS)
- High speed internet and cellular service
- Rainy day funds for municipalities
- Better bridge between response and recovery
- Better availability and organization of information about disaster victims
- Better volunteer management in response phase
- Regionalize some emergency management functions
- Local ICS training specifically in the planning, logistics and finance branches

Vulnerabilities/Constraints:

- Mixed messages from leadership during response
- Miscommunications and rumors during response
- Lack of clarity about FEMA rules in general population
- State's reluctance to declare and take charge of emergencies
- Recovery funds didn't come until a year after the incident
- Inability to acquire people's phone numbers from E-911 system
- EMD conference calls are often during the day- volunteer EMD's are usually at work, and aren't always in the loop if they're not on the computer all day
- Many local leaders/volunteers are in their elder years, and very few are from the younger generations- who will take over?

Solutions Identified:

- DEMHS has created a cross agency working group, and different state agencies are talking about how to coordinate better
- Expand and better utilize D-LAN network
- Towns establishing a line of credit to be financially ready when disasters hit

Possible Case Studies:

- Grafton template for improving planning, logistics and finance training for local ICS- if successful, could be used as a statewide model

- **Infrastructure-** This section focused on risks outside of the mapped FEMA floodplain, resource constraints, and political resistance to new mapping and fluvial erosion hazard zoning.

Needs:

- More attention to diverse risks, not just flooding
- Being able to have the conversation about not rebuilding in vulnerable areas (difficult to do)
- More of a focus on people than infrastructure
- State to advocate for housing authorities with FEMA- point out that they are eligible for assistance
- Backup housing
- Roadmap must take Vermont independent culture into account or it won't work
- Funds to make improvements
- Annual notifications from municipalities to people living in floodplains of the flood risk
- Fluvial erosion maps that show the risk to different communities
- Practical evacuation plan for VY traffic
- Keep roads system running
- Low-tech phone tree
- Better Selectboard training

Vulnerabilities/Constraints:

- Feeder streams have a lot of deadfall in them and are a big flood risk
- Septic systems
- Severe winter storms and ice storms
- Short memory horizons after events
- Political opposition to updated flood maps because of concern over increased costs to homeowners, and being told what to do with private land
- Flood maps do not predict actual flooding for many communities
- Political opposition to fluvial erosion hazard control at the municipal level
- Lollipop developments, where there is only one way in and out

Solutions Identified:

- Educating public by walking them through floodplains and describing risks and river dynamics
- Financial incentives for proactive action to prevent flooding
- Public education about land use, infrastructure and zoning
- Utilize 2nd homes for disaster housing

Possible Case studies:

- None identified

- **Land Use-** There was strong support from this group for increasing education of the public about river dynamics and land use. The difficulty of controlling what people do on their land and the financial implications of development and of land use decisions were also discussed.

Needs:

- More guidance from state on diverse options for floodplain development
- Getting people to think in terms x years (longer horizon) when doing cost analyses
- Small scale technical assistance
- State needs to get more information out about land use
- Public education about land use and flooding

Vulnerabilities/Constraints:

- Dam breakage risk- some private land ponds and beaver dams are only known by a few people
- Because of local control the development dollar usually prevails
- Ski area development upland is changing watershed dynamics
- Some towns are in valleys with steep sides- the floodplain is the only place you can develop

Solutions:

- Work to flood-proof buildings in flood prone areas (mitigation)
- Look at land use at the watershed scale
- Include beaver dams in Hazard Mitigation Plans
- Prevent further development on land that has already flooded by taking an easement on it
- Rather than the state taking control, they can offer various options and templates for development in flood zones

Possible Case studies:

- Purchase of development rights on agricultural land in the floodplain as done by VT Housing Conservation Board. Very successful

Common themes throughout the session

Education and outreach to the public emerged as a need in all three issue areas. Participants urged for a stronger focus on the human dimension of these problems. In planning processes, it was suggested that we look at longer time horizons and more regional perspectives. There was also a call for more collaboration amongst people within individual communities. Participants hoped that state agencies could provide information to the public in a way that makes them feel that it is not being 'stuffed down their throats', but gives them understanding and choices about land use.

Session 5- Chittenden and Addison Regions

August 7, 2013

2:30-4:30 Shelburne Town Office

- **Emergency Management-** This conversation quickly integrated issues of infrastructure and land use, and the interconnectedness of these issues with emergency management. There was a focus on public education and local capacity issues.

Needs:

- More proactive approach to emergency management
- Stockpiling of materials for river management so that we don't have to dredge rivers for them
- Ramping up Hazard Mitigation plans or other regulations
- Greater cooperation and coordination from the state
- More buy-in from the local level on changing regulations and standards
- Education of public regarding repairs
- More direct development at the state level for emergency planning
- Support for local landowners to understand implications of land use choices on their properties
- Municipal level planning that evaluates how close a town is to achieving resilience
- Cost information for municipal resilience efforts offered by the state
- Training the trainer in state agencies
- Location-specific recommendations
- Information to prioritize where replacements or work needs to happen
- Information about how an improvement (i.e. culvert replacement) might affect other culverts downstream
- Software that models worst case scenario so public can visualize climate change
- Business owners need to understand how to mitigate asset loss through planning (not storing expensive equipment in floodplain)
- Understanding of implications to implementing projects, and how to do it the right way with private landowners. Must be thought of on a 10-20 year time horizon with a lot of education and support for the process.
- Development of local emergency management leadership, including succession planning for people who are 'aging out' of service
- More emergency management funding

Vulnerabilities/Constraints:

- When rivers are backhoed during floods, then materials have to be replaced somehow
- DEC work related to river resilience is good but is not happening fast enough
- New road standards are not required- just incentivized
- 'Every town for itself' attitude does not foster a recognition of higher forms of authority
- Selectboard membership changes every year
- The window of opportunity Post-Irene is closing
- State agency staff does not necessarily provide consistent messaging

- People are sick of regulations
- Public hearings are not happening at times that foster participation
- Some well informed participants of the focus groups were not aware of Hazard Mitigation Plans (HMP)
- Some small towns (Weybridge and Panton) do not yet have HMPs
- HMPs are not handy reference documents that are actively used
- Activities in HMPs are weakened before adoption
- Selectboards don't always understand HMPs
- Lack of state funding for Emergency Management
- DEMHS does not receive state funding
- Unwillingness of towns in floodplains to consider moving the town

Solutions:

- Front Porch Forum as community communications tool
- Educate local landowners so they know the right thing to do regarding land use choices- nonprofits, state, University can fill this role

Possible Case Studies:

- None identified

➤ **Infrastructure-** This conversation covered many topics and finished with the needs of town to know their infrastructure resilience needs, and to develop and build capacity to address them.

Needs:

- Preserved wetlands and recharge areas in minimally populated areas
- Identify threshold that we should build for, knowing that the system will eventually be overwhelmed
- Improved standards
- Information on how many structures you can allow on different slopes
- Better maintenance of gravel roads and ditches
- Better use of state database on culverts
- Funding sources
- Better awareness of investment needs – we need to know the numbers
- Incorporate new data into life cycle numbers of a road
- Technical assistance to municipalities
- Increased local capacity to absorb or implement technical assistance
- Bring town plans together to approach regional challenges
- Municipalities need to have a flood resilient element to their town plans
- Planning Commission's review and approval of a plan gives projects more legitimacy and helps Selectboards make decisions
- Long-term support for small towns with no staff

Vulnerabilities/Constraints:

- Roads- without which communities and homeowners are isolated
- Disruption of commerce when roads aren't usable
- Response times from state to the people

- Connectivity between people
- Communications systems
- Lack of information on long term impacts of when rivers move
- Well houses, sewage treatment plants next to Winooski river
- Increased water for wastewater facility to process- impacts on the lake
- Forest floodplains and riverbanks that have been severely impacted has economic impacts on recreation
- Bank erosion and collapse on rivers and lake
- Lack of wealth to maintain all existing infrastructure
- FEMA and state pickup of 90% of rebuilding costs sends the wrong message (incentivizes rebuilding)
- Landowners in denial about being in inundation or fluvial erosion areas
- Lack of local accountability
- Small towns strapped for time
- Task-oriented planning grants for RPCs don't allow for a broad scope of RPC support to town

Solutions Identified:

- Better utilization of DEC website culvert information
- Education of the next generation about land use
- Clearinghouse of information and guidance on building resilience
- Flood resilience should be a topic in annual Vermont League of Cities and Towns meetings for town managers

Possible Case studies

- Circuit rider planner from RPC who checks in with all of the towns to see how they are doing and what their needs are. This used to be done in the past.
- Slow Communities is developing data on cost to towns of infrastructure loss and repair to be used as a case study for other towns who can plan proactively.

➤ **Land Use**- This discussion covered a wide range of issues, including disseminating information on best practices for downtowns and villages as well as undeveloped areas. The group also discussed various ways to incentivize resilient land use.

Needs

- Stop rebuilding flood damaged properties, replace with green space
- Preserve green infrastructure (natural systems)
- Monitor and assess natural forest systems regularly
- Rebuild with the right practices in historic downtowns and villages
- Best practices outside of town centers
- Find out how much money we have to work with
- More creative solutions to encourage people to move out of floodplains
- Work with people on best management practices for undeveloped properties
- Improve implementation
- More authorization of municipalities to plan with financial assessments
- A good process that helps people understand the importance of better land use practices

- Leadership development of local citizens who are willing to take on resilience issues
- Using a multilevel approach
- Educate people about the 'why' behind regulation
- Look at sub-shed (using ANR Atlas data) when doing infrastructure improvements, look upstream and downstream
- Develop effective tools and means for communications about things related to resilience
- Build internal capacity in towns

Vulnerabilities/Constraints

- Political difficulty of legislating a ban on redevelopment in flooded areas, especially in the emotional time after a disaster
- Difficult to qualify for FEMA mitigation money
- Neighbors have a hard time saying no when on Development Review Board
- Lack of knowledge about Act 16
- State money for buying development rights in FEH zones is limited and only focused on high priority areas
- Hazard mitigation plans don't deal with agriculture and silva which creates a gap in flood resilience and holding the soil in place
- State can't police regulations
- 'All voluntary' solutions are not good enough

Solutions

- Develop a system where people who build farther from town center have to pay more
- Use zoning to disincentivize development in further and higher areas, and create incentives for development in desired areas
- Buying development rights in FEH
- Explore voluntary options
- Utilize housing conservation model to deal with flood risks
- Planning Commissions and the people have to ask for there to be more regulation- it can't be top-down
- Voluntary good management practices- create a program with awards and incentives
- Regulatory solutions that are incremental and linked to financial cost benefit
- Provide case studies for local residents showing how to make meaningful changes
- Public Service Announcements for resilience

Possible Case studies

- Otter Creek as functioning floodplain/relationship with Vergennes

Common themes throughout the session:

The need for education and outreach to the public to build political will for change in the status quo, and capacity building at town level were themes in all three areas. The RPCs were identified as playing an important role in filling some of these gaps.

Session 6- Chittenden and Addison Regions

August 7, 2013

6:30-8:30 Shelburne Town Office

- **Emergency Management**- This conversation focused heavily on the lack of public awareness about emergency management structures, and information needs about risks.

Needs:

- Public awareness of how the emergency system works and coordinates
- Identify risks more clearly
- Better information dissemination to public officials
- More energy needs to be put into prevention- preparedness is not enough
- Risk analysis for each town with different rainfall scenarios
- Collate lessons learned from 2011 floods and disseminate information throughout the state
- More state funding for staff to do river planning
- Get more young people involved

Vulnerabilities/Constraints:

- Public does not know who to call, and is at times afraid to call 911
- Overreliance on emergency services decreases community interdependence
- Many don't know where emergency shelters are or who emergency directors are, including Selectboard members
- Two out of the 7 attendees were sure that their municipality had a hazard mitigation plan
- Towns untouched by recent disasters can become complacent
- Panic response can cause people to dredge rivers, which causes a great deal of damage
- Selectboards reject river friendly plans as they counter conventional knowledge about river management

Solutions:

- Mutual aid partnerships with out of state people to help with river management decisions, or managing other infrastructure
- 5-member emergency committees to deal with crises and communication, ensure that local emergency management involves a team of people, not just one person or one family

Possible Case Studies

- None identified

- **Infrastructure**- This section focused on infrastructure vulnerabilities and a variety of issues around rebuilding, disinvestment, and the variation in town resources and needs.

Needs:

- Mapping who will lack access to water in the event of a disaster
- Mapping resources in a community, and human capacities (do you have a chainsaw, do you know how to use one?)
- Talk about when we don't want to rebuild
- Technical assistance for specific asset management in specific locations, working directly with people who do this on a day to day basis
- Work with road crews to get buy-in on FEH maps
- Plans need to be tailored to each town
- Community members need to work together but also build individual/household resilience

Vulnerabilities/Constraints:

- Roads and bridges
- Lack of funds is a huge issue and impediment
- Federal funds will decrease, but communities expect someone else to take care of their issues
- Heavy reliance on volunteers makes it hard to plan effectively
- Breakdown of communications systems during Irene- electricity, lack of cell coverage
- Extreme reliance on electricity - which goes out quite often - even to milk cows
- Reliance on electricity for access to water from wells
- Food supply and cooling issues in power outage
- In some cases the road crew leader and Emergency Management Director are the same person and can't do both jobs at the same time during a disaster
- Building roads higher up results in damage in a different place
- When FEMA pays for improved structures it takes attention away from the disinvestment conversation
- Great variation in towns

Solutions:

- Jericho has a road tracker device that is used to document infrastructure work by road crew

Possible Case studies:

- None identified

- **Land Use**- This conversation revolved around strategies and barriers to regional/watershed planning responses. State vs. local control was also discussed. This group was in favor of a stronger state regulatory role in land use matters.

Needs

- Regional responses to land use problems
- Get individual towns to cooperate with each other
- Deal with incremental development by making each property infiltrate all of its water

- Build local capacity by mixing old guard with new people
- Resilient Vermont project should focus more on the big picture of land use issues
- Look at this as an opportunity for positive change, cooperation, and positively impacting future generations
- Build trust from local level up to the state

Vulnerabilities/Constraints

- Watersheds crisscross political and municipal jurisdictions
- Funding happens at the local, not regional level
- Lack of trust or buy-in to 'expert' information
- Perception that state cares more about fish than people
- Zoning based on FEMA regulations gives a mixed message
- Disconnect between what science is telling us and what funding programs like FEMA are willing to pay for
- Too hard for a neighbor to say 'you can't build on your land' in zoning deliberations- when present, zoning bylaws are frequently waived
- Permanent affordable housing is being put in floodplain
- Increase in impervious surfaces
- Lack of local level enforcement of land use
- Changes in land-use laws affects property values
- People are too consumed with the day to day concerns of running a town to actually talk about resilience

Solutions

- Stop building in upland flood attenuation areas and floodplain
- Permeable surfaces, green roofs, reforestation
- Find positive ways of framing land use limitations i.e. floodplains are good for recreation
- Compensate farmers for keeping open land and land out of cultivation
- Put forward management practices on farmland that reduce flood risk
- Show examples of people successfully dealing with these problems

Possible Case studies

- No-build zone on ridgelines and floodplain in Monkton

Common themes throughout the session:

This group was in support of building local awareness of resilience-related issues, a focus on positive solutions, the need for clearly identified examples. Limited town capacity in all three issue areas was also a common theme.