Berkshire County Hazard Mitigation Plan

Prepared for:
Adams, Becket, Dalton, Egremont, Great Barrington, Hancock, Lee, Lenox, Monterey, New Marlborough, Otis, Pittsfield, Richmond, Sandisfield, Sheffield, Stockbridge, Tyringham, Washington and Williamstown, MA

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Executive Summary

Berkshire County, in western Massachusetts, is susceptible to a wide array of natural hazards, include: flooding, severe storms, winter storms, tornados, earthquakes and hurricanes. The economic costs of these hazards are significant. A Hazard Mitigation Plan outlines actions that each of our communities can take to reduce the impact of these natural disasters when and if they occur later, by taking action before the disaster strikes.

The Berkshire Regional Planning Commission (BRPC) has developed a regional multi-jurisdictional hazard mitigation plan in partnership with nineteen (19) municipalities of Adams, Becket, Dalton, Egremont, Great Barrington, Hancock, Lee, Lenox, Monterey, New Marlborough, Otis, Pittsfield, Richmond, Sandisfield, Sheffield, Stockbridge, Tyringham, Washington, and Williamstown. This plan is prepared in accordance with the federal Disaster Mitigation Act of 2000. This plan is an update of the 2005 regional plan. The purpose of the plan is to mitigate potential damage from those natural hazards that are deemed to be a threat to the Berkshire region.

The Plan contains goals and objectives for developing the Plan, an assessment and inventory of natural hazard risks, a vulnerability analysis based on the geographic location of critical infrastructure and facilities, and an existing protections matrix. Through a discussion with local officials, the Multi-Hazard Community Planning Team and the public, a list of hazard mitigation actions and projects has been developed for future implementation. As required by federal regulation, this plan is an update of the 2005 plan and will be reviewed and updated in the future to keep it both current and relevant.

The completion of this plan will make the participating communities eligible for certain types of federal funding to implement mitigation activities that may be funded through the Pre-Disaster Mitigation Grant Program and Hazard Mitigation Grant Program. The plan will also reduce the region's vulnerability to natural disasters by identifying appropriate projects for the limited amount of funding that is made available in the future.

Introduction and Overview

Background

A natural hazard is defined as "an event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss (MEMA & DCR, 2010)." The rising cost of natural disaster relief has prodded FEMA to refocus its efforts. Whereas preparedness, training, response and recovery have traditionally been primary focuses of FEMA and other emergency managers, proactive planning and up-front mitigation activities are being examined as never before. Hazard mitigation is defined as a "sustained action taken to reduce or eliminate the long-term risk to people and property from hazards and their effects" (FEMA).

The Federal Disaster Mitigation Act of 2000 mandated that all localities prepare local natural hazard mitigation plans to be eligible for future FEMA funding from the Pre-Disaster Mitigation (PDM) grant program and for the post-disaster Hazard Mitigation Grant Program (HMGP) (FEMA, 2000). The Commonwealth of Massachusetts is seeking to ensure that all 351 of its municipalities develop a local mitigation plan. However, not all of those individual municipalities have the capacity to develop hazard mitigation plans on their own. The state is therefore enlisting the help and technical assistance of the 13 Regional Planning Agencies (RPAs) across the state. RPAs are quasi-governmental agencies that regularly work on projects of region-wide importance, and the state is asking them to work with the municipalities in their region and to create one over-arching mitigation plan for the region that includes data for each jurisdiction.

This plan is the update of the 2005 Berkshire County Hazard Mitigation Plan. The 2005 Regional Plan had annexes for six communities, Becket, Hinsdale, Lenox, Stockbridge, Tyringham and Williamstown. The Regional Plan has been converted into a Multi-Jurisdictional Plan during this update process and includes information on 19 participating communities, Adams, Becket, Dalton, Egremont, Great Barrington, Hancock, Lee, Lenox, Monterey, New Marlborough, Otis, Pittsfield, Richmond, Sandisfield, Sheffield, Stockbridge, Tyringham, Washington and Williamstown. The Town of Hinsdale, which participated in the 2005 plan, is not participating in the 2012 update. Where applicable, text from the 2005 plan was used, although the report has been reorganized and updated to reflect the additional communities and newer data. Each section of this plan was reviewed, reorganized and updated as part of the 2012 update of the 2005 Hazard Mitigation Plan. This included updating the planning process, hazard identification, community assessments and evaluation and revising action items.

Geographic Scope

This plan covers Berkshire County, Massachusetts. Berkshire County is the westernmost region of Massachusetts, bounded on the west by New York, on the north by Vermont, on the south by Connecticut, and on the east by the Massachusetts counties of Franklin, Hampden and Hampshire. The Taconic Hills along the western border with New York and the Hoosac Range and Berkshire Hills along the eastern border have historically acted as barriers to travel and commerce. As such, the county represents a true region, well-defined by physical features, geographic relationships, historic traditions and internal social and economic interdependence. Nineteen of the 32 Berkshire County communities participated in this plan. Those communities (Figure 1) can be seen in Figure 1.

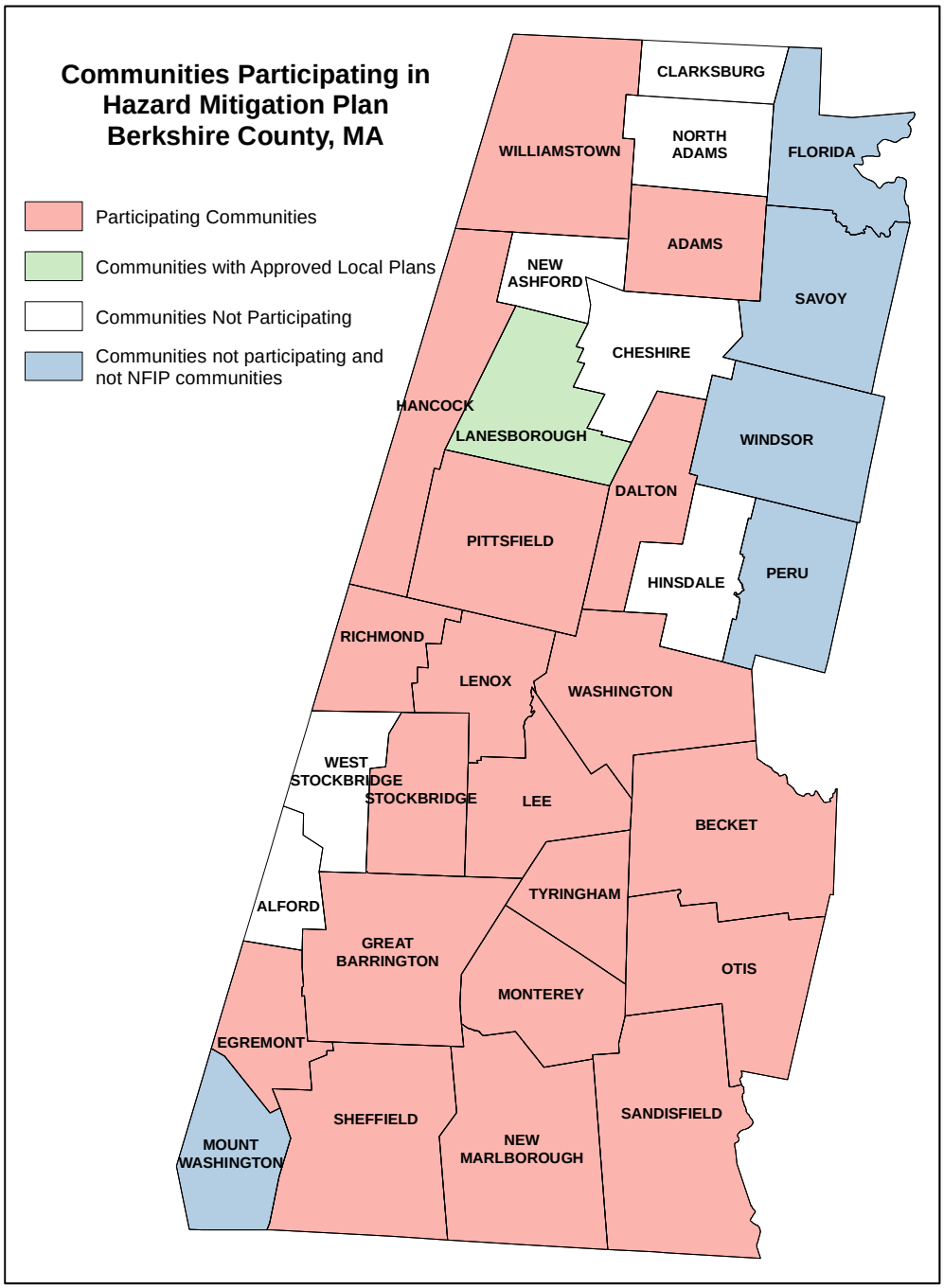

Figure 1. Communities Participating in Hazard Mitigation Plan

Community Involvement

Each of the participating communities was involved in a number of ways. Each community was expected to attend at least one of the two regional meetings. In addition, a set of three meetings were held in each participating community. The first community meeting was a public meetings that tended to be at a Select Board or City Council meeting and open to the public. When feasible these meetings were televised on the local communities' public access TV

stations. The second was a working meeting with emergency responders, planners, administrators, public works staff from the community and anyone else that was interested. The communities were also given a chance to comment on any sections directly involving their community as well as the entire plan. The third meeting was a public meeting to go over the findings of the plan and solicit comments on the draft report.

Planning Process

The planning process was considerably revised as part of the 2012 Hazard Mitigation Plan Update. The general organization from the 2005 plan was used, however additional public meetings were conducted in each community in order to strengthen the public participation component as that was cited as lacking in a review of the 2005 plan.

Coordinating Role of Regional Planning Agency

The Berkshire Regional Planning Commission (BRPC) worked with the participating communities and coordinated the development of this plan. BRPC was established in 1966 to provide regional land use, transportation, and environmental planning expertise to the two cities and 30 towns of Berkshire County, MA. When county government was dissolved in 2000, BRPC became the only quasi-governmental organization for the region. In its capacity as a regional planning agency, BRPC has conducted numerous detailed land use, transportation, and environmental planning studies.

Planning Process

At the commencement of the planning process, BRPC consulted with hazard mitigation staff from the Massachusetts Emergency Management Agency and the Massachusetts Department of Conservation and Recreation on the planning process. BRPC reviewed FEMA guidance on developing a plan and the regulations that guide the development of the plan.

BRPC began the process by convening the regional Multi-Hazard Community Planning Team, which included at least one person from every participating municipality. Meeting discussion topics included the what, why and how of hazard mitigation, the current planning process, and findings from the 2005 Berkshire Hazard Mitigation Plan (Appendix 1. Meeting Presentations). Public meetings were then held in each of the communities to discuss hazard mitigation and to solicit information on what hazards affect each community. Follow-up meetings were held in each community to discuss specific problem areas in town that need to be addressed within the plan. Existing protection and mitigation measures were also discussed at this meeting. While these meetings were occurring, BRPC staff reviewed and updated the regional plan with community-suggested ideas and new data available. Once all of the community meetings were held, BRPC completed a draft of the report. The regional multi-hazard community planning team was reconvened in order to discuss the findings and action items (Appendix 1. Meeting Presentations). BRPC staff then went back to each community and held a meeting discussing the findings of the plan and the specific items related to the community. Once all local meetings were held, comments were incorporated into the plan and sent to MEMA and FEMA for their review. Notes for all the regional and community meetings can be found in Appendix 2.

The members of the regional multi-hazard community planning team are shown on Table 1.

Table 1. Multi-Hazard Community Planning Team

Community	Name	Position	New or Updated Plan
Adams	Tom Satko	DPW Director	New
Becket	Craig Kleman	Town Administrator	Update
Dalton	Dan Filiault	Emergency Management Director	New
Egremont	Edward McCormick	Emergency Management Director	New
Great Barrington	Will Brinker	Deputy Emergency Management Director	New
Hancock	Sherman Derby, Sr	Board of Selectmen, Chair	New
Lee	Robert Nason	Town Administrator	New
Lenox	Daniel W. Clifford	Fire Chief	Update
Monterey	Melissa Noe	Executive Secretary	New
New Marlborough	Barbara Marchione	Emergency Management Director	New
Otis	Chris Bouchard	Highway Superintendent	New
Pittsfield	Bruce Collingwood	Director of Public Works	New
Richmond	Matthew Kerwood	Town Administrator	New
Sandisfield	John Burrows	Emergency Management Director	New
Sheffield	Rhonda LaBomard	Town Administrator	New
Stockbridge	Jorja Mardsen	Town Administrator	Update
Tyringham	Molly Curtin-Shaefer	Executive Secretary	Update
Washington	Paul Mikaniewicz	Fire Chief	New
Williamstown	Andrew Groff	Town Planner	Update

The public was involved throughout the planning process, having opportunities at each of the local community meetings to present ideas. The BRPC also kept the public informed through its website, which solicited ideas from the public as well as made the draft of this plan available for review. Some towns utilized their own websites to post information and solicit comments about the plan.

Other organizations throughout the county were sent letters soliciting their input on the hazards they see facing the region as well as problem areas and potential mitigation activities. They were also invited to review the draft plan and provide comments. A list of these organizations can be found in Appendix 3. All comments received by these organizations, and the public that actually dealt with hazard mitigation, were incorporated into this plan where appropriate.

Several emergency response plans are already in place. Each municipality has a Comprehensive Emergency Management Plan (CEMPs) in the event of an emergency. The three Regional Emergency Planning Committees also have response plans in the event of a hazardous materials disaster. In addition, the *Regional Homeland Security Plan* has been developed for the four counties of Western Massachusetts, of which Berkshire County is one. Each of these emergency management plans has a slightly different focus, but many of the components within each are

common, such as an inventory of critical facilities, a list of roles and responsibilities, and protocols for response. The intent of this hazard mitigation plan is to reflect existing conditions as cited in previous work, compliment and augment the efforts already undertaken, while meeting the requirements of a hazard mitigation plan as outlined by FEMA in the federal Disaster Mitigation Act of 2000 (DMA 2000.)

During the development of the *Berkshire County Hazard Mitigation Plan*, BRPC and local representatives have taken every opportunity to coordinate all aspects of emergency management planning. This includes developing goals and objectives that meet local needs, but that also compliment local and regional goals established in the development of the CEMPs and Homeland Security Plan. It also includes developing data that can be incorporated into all existing and future planning efforts.

BRPC staff and the local communities reviewed local plans, by-laws, and reports to inform this plan update. If plans discussed aspects of hazard mitigation, the comments were incorporated into the hazard mitigation plan. A table of the municipal plans that were reviewed can be found in Appendix 1. In addition to these specific documents listed, technical information for this plan came from meetings with town staff and the public. Of the communities that were involved in the 2005 Hazard Mitigation Plan, none of them have done any plan development since the plan was written, so they have not had an opportunity to incorporate items from the 2005 report into their local plans. Future review of watershed plans, greenway plans, economic development plans and others will be conducted for inclusion in the 2017 Hazard Mitigation Plan.

Regional Profile

This Regional Profile is based on the 2005 plan. Minor edits have been made as well as the incorporation of new data where available.

Berkshire County is comprised of two cities and thirty towns in an area of 605,659 acres or 946 square miles. Elevations range between 566 feet above sea level in Williamstown on the Hoosic River and 3,354 feet in Adams at the summit of Mount Greylock, the highest point in the state (MassGIS, 2010). Two main rivers drain the county: the Housatonic River in the central and south, and the Hoosic River in the north. The Housatonic River watershed dominates the county, encompassing approximately 500 square miles, before it flows into Connecticut to eventually reach Long Island Sound. The Hoosic River encompasses 188 square miles, flowing north and west before it flows into Vermont and New York, eventually reaching the Hudson River and reaching the Atlantic Ocean near New York City. In general, the headwaters of the two rivers begin in the mountainous terrain that lies along the western and eastern borders of the county. The larger river valleys, especially that of the Housatonic River, contain meandering river channels and some rich floodplains. The climate is generally cooler than neighboring regions to the east (Connecticut River Valley), and west (Hudson River Valley). Much of this is due to the lower elevations of the dominating valleys which host the larger rivers.

Population, Households, and Employment

The 2010 United States Census recorded 131,219 permanent residents in Berkshire County, a decrease of 2.8% from 2000 (US Census Bureau). The historic population trend can be seen in figure 2. Basic demographic characteristics on each community can be found in table 2.

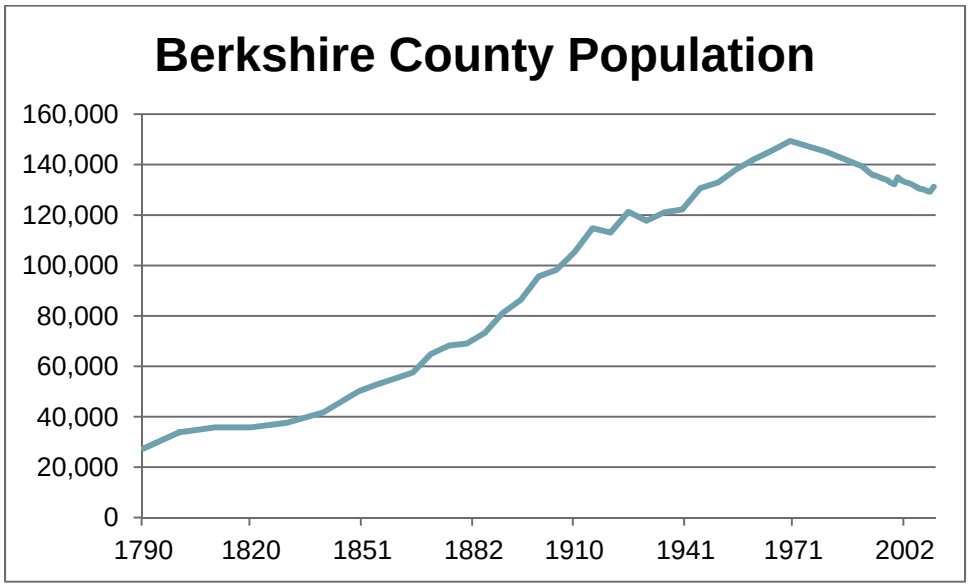

Figure 2. Berkshire County Population Trend

Source: (US Census Bureau)

The regions also has a large seasonal population, some of which is transient and stays in motels, resorts and time-shares, camps at the numerous state parks, or visits the area for a day to

attend an attraction. In addition, a number of seasonal visitors have bought seasonal homes and have become part-time residents. Approximately 11.5% of the housing stock in the region is of a seasonal nature, compared to 4.1% statewide. The towns with the highest number of seasonal housing in the county are Otis (55.1%), Becket (51.5%) and Monterey (49.9%); together these three communities contain approximately 30% of the total seasonal housing in the region (US Census Bureau). Table 3 displays the housing characteristics of each community. Several communities are also host to large condominium complexes and time-share resorts (Hancock, Lee and Lenox).

The Berkshire's employment has also changed over the last few decades. The manufacturing industry once had a large employment force in the county, with many communities having local mills along the rivers; however that has changed over time with most of the employment now being based in the management and professional, sales and office, and service industries. Table 4 shows the number of employed persons by occupation. The Berkshire economy currently places a large focus on tourism, which is reflected in the large employment numbers in the sales and services industries (US Bureau of Labor Statistics, 2010). This is in part driven by the abundance of cultural and recreational amenities that the Berkshires are known for, such as Tanglewood, which is the summer home of the Boston Symphony Orchestra, MASS MoCA, the Clark Art Institute, Jacobs Pillow Dance Festival and the Norman Rockwell Museum. These amenities have also led to the seasonal housing characteristics mentioned above.

Table 2. Community Characteristics

Community	Area (Sq. Mi.)	Population	Population Density	Households	Total Employed Persons, 16+
Adams	22.96	8485	370	3907	4,130
Alford	11.53	494	43	223	199
Becket	47.79	1779	37	763	870
Cheshire	27.52	3235	118	1403	1,724
Clarksburg	12.79	1702	133	675	860
Dalton	21.87	6756	309	2737	3,460
Egremont	18.88	1225	65	563	727
Florida	24.60	752	31	308	356
Great Barrington	45.77	7104	155	2879	3,760
Hancock	35.74	717	20	299	371
Hinsdale	21.69	2032	94	868	955
Lanesborough	29.58	3091	104	1291	1,623
Lee	27.01	5943	220	2560	3,221
Lenox	21.67	5025	232	2283	2,368
Monterey	27.40	961	35	426	497
Mount Washington	22.39	167	7	74	81
New Ashford	13.47	228	17	95	140
New Marlborough	47.90	1509	32	630	758
North Adams	20.61	13708	665	5868	6,745
Otis	38.05	1612	42	708	702
Peru	26.04	847	33	336	427
Pittsfield	42.47	44737	1053	19653	21,266
Richmond	19.03	1475	78	657	878
Sandisfield	52.95	915	17	377	411
Savoy	36.03	692	19	298	356
Sheffield	48.54	3257	67	1424	1,741
Stockbridge	23.68	1947	82	919	1,188
Tyringham	18.86	327	17	138	223
Washington	38.82	538	14	225	287
West Stockbridge	18.68	1306	70	593	732
Williamstown	46.85	7754	166	2542	3,738
Windsor	35.16	899	26	369	459
Berkshire County	**946**	**131219**	**139**	**56091**	**62307**

Source: (US Census Bureau), (US Bureau of Labor Statistics, 2010)

Table 3. Community Housing

Community	Total Housing Units	Occupied Housing Units	Seasonal Housing Units	Vacant Housing Units
Adams	4,371	3,907	34	430
Alford	342	223	111	8
Becket	1,728	763	890	75
Cheshire	1,529	1,403	48	78
Clarksburg	715	675	9	31
Dalton	2,920	2,737	60	123
Egremont	921	563	325	33
Florida	356	308	21	27
Great Barrington	3,466	2,879	394	193
Hancock	534	299	208	27
Hinsdale	1,133	868	215	50
Lanesborough	1,478	1,291	113	74
Lee	3,056	2,560	354	142
Lenox	3,044	2,283	571	190
Monterey	928	426	463	39
Mount Washington	148	74	68	6
New Ashford	112	95	8	9
New Marlborough	1,039	630	347	62
North Adams	6,752	5,868	71	813
Otis	1,701	708	938	55
Peru	413	336	59	18
Pittsfield	21,487	19,653	456	1378
Richmond	902	657	196	49
Sandisfield	671	377	270	24
Savoy	357	298	39	20
Sheffield	1,751	1,424	244	83
Stockbridge	1,692	919	641	132
Tyringham	280	138	131	11
Washington	261	225	26	10
West Stockbridge	856	593	211	52
Williamstown	3,074	2,542	269	263
Windsor	491	369	104	18
Berkshire County	68,508	56,091	7894	4523

Source: (US Census Bureau)

Table 4. Employment Sectors

Community	Managerial, Professional	Sales and Office	Service	Farming, Forestry, Fishing	Construction, Extraction, & Maintenance	Production, Transportation, & Material Moving	Total Employed Persons, 16+
Adams	1,154	1,067	724	13	401	771	4,130
Alford	91	48	22	0	18	20	199
Becket	302	193	143	9	99	124	870
Cheshire	612	427	279	6	189	211	1,724
Clarksburg	253	205	161	4	102	135	860
Dalton	1,224	958	566	0	281	431	3,460
Egremont	331	155	118	8	67	48	727
Florida	86	95	48	2	53	72	356
Great Barrington	1,368	883	779	12	263	455	3,760
Hancock	146	70	70	7	25	53	371
Hinsdale	314	227	147	2	132	133	955
Lanesborough	588	404	256	5	162	208	1,623
Lee	1,105	949	529	28	318	292	3,221
Lenox	1,147	550	317	0	124	230	2,368
Monterey	229	99	67	9	59	34	497
Mount Washington	44	12	10	0	10	5	81
New Ashford	62	34	20	1	15	8	140
New Marlborough	276	132	101	7	109	133	758
North Adams	1,824	1,590	1,656	0	601	1,074	6,745
Otis	227	154	100	8	120	93	702
Peru	98	111	73	4	61	80	427
Pittsfield	6,890	5,883	4,375	109	1,674	2,335	21,266
Richmond	458	173	113	3	69	62	878
Sandisfield	129	77	68	0	73	64	411
Savoy	107	49	56	6	66	72	356
Sheffield	495	402	334	35	260	215	1,741
Stockbridge	583	285	150	0	83	87	1,188
Tyringham	102	50	35	0	17	19	223
Washington	79	82	55	2	34	35	287
West Stockbridge	354	157	101	3	58	59	732
Williamstown	2,036	698	691	8	140	165	3,738
Windsor	179	112	68	2	39	59	459
Berkshire County	22,893	16,331	12,232	293	5,722	7,782	65,253

Source: (US Bureau of Labor Statistics, 2010)

Regional Land Use

Approximately 7% of the county is developed, primarily for residential purposes with over 70% of that development in single family homes. The vast majority of the region's development is located within these river valleys and at stream/river junctions. The densest areas of development are often situated along the riverbanks, where moving water was once used to power textile mills and other factories. The remaining land use is characterized by water bodies (2%), with public and recreational open space and farmland, forest, meadow and marsh lands comprising about 91% of regional land cover or use (MassGIS, 2010). Figure 3 displays the land use in the county by percent. Table 5 displays the land use by community.

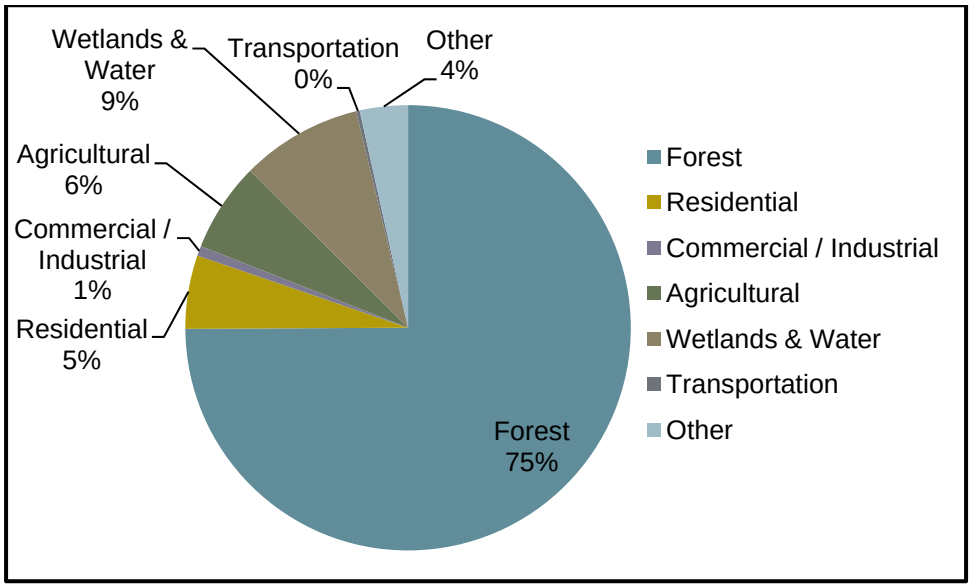

Figure 3. Regional Land Use

Source: (MassGIS, 2010)

Table 5. Berkshire County Land Use (2005)

	Forest		Residential		Commercial & Industrial		Agricultural		Wetlands & Water		Transportation		Other		Total
Community	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**
Adams	10190	69.4%	1352	9.2%	205	1.4%	1625	11.1%	260	1.8%	11	0.1%	1045	7.1%	14688
Alford	5415	73.4%	392	5.3%	2	0.0%	1150	15.6%	331	4.5%	0	0.0%	89	1.2%	7378
Becket	25599	83.7%	896	2.9%	30	0.1%	235	0.8%	3085	10.1%	185	0.6%	544	1.8%	30574
Cheshire	12101	68.7%	1248	7.1%	68	0.4%	2185	12.4%	1115	6.3%	7	0.0%	879	5.0%	17603
Clarksburg	6750	82.5%	500	6.1%	21	0.3%	327	4.0%	409	5.0%	2	0.0%	174	2.1%	8183
Dalton	10655	76.2%	1297	9.3%	176	1.3%	436	3.1%	548	3.9%	29	0.2%	848	6.1%	13990
Egremont	7773	64.3%	871	7.2%	25	0.2%	1896	15.7%	1042	8.6%	0	0.0%	473	3.9%	12081
Florida	14265	90.7%	310	2.0%	31	0.2%	406	2.6%	405	2.6%	13	0.1%	306	1.9%	15736
Great Barrington	20333	69.4%	1883	6.4%	310	1.1%	2944	10.1%	2601	8.9%	78	0.3%	1129	3.9%	29280
Hancock	20315	88.9%	415	1.8%	30	0.1%	1113	4.9%	450	2.0%	1	0.0%	539	2.4%	22864
Hinsdale	9362	67.5%	712	5.1%	23	0.2%	526	3.8%	2576	18.6%	36	0.3%	644	4.6%	13878
Lanesborough	13558	71.6%	1097	5.8%	176	0.9%	1670	8.8%	1412	7.5%	11	0.1%	1001	5.3%	18926
Lee	11117	64.3%	1433	8.3%	355	2.1%	1240	7.2%	1702	9.8%	268	1.5%	1166	6.7%	17281
Lenox	8772	63.3%	1339	9.7%	339	2.4%	518	3.7%	1791	12.9%	33	0.2%	1070	7.7%	13861
Monterey	14325	81.7%	602	3.4%	6	0.0%	714	4.1%	1617	9.2%	0	0.0%	266	1.5%	17531
Mount Washington	13481	94.1%	125	0.9%	1	0.0%	171	1.2%	408	2.8%	0	0.0%	137	1.0%	14322
New Ashford	7909	91.7%	102	1.2%	17	0.2%	348	4.0%	93	1.1%	0	0.0%	150	1.7%	8620
New Marlborough	23490	76.7%	953	3.1%	37	0.1%	2673	8.7%	2976	9.7%	0	0.0%	512	1.7%	30641
North Adams	9527	72.2%	1534	11.6%	403	3.1%	413	3.1%	498	3.8%	117	0.9%	697	5.3%	13188
Otis	18534	76.1%	825	3.4%	56	0.2%	235	1.0%	4267	17.5%	55	0.2%	371	1.5%	24343
Peru	14725	88.4%	389	2.3%	5	0.0%	140	0.8%	1214	7.3%	0	0.0%	183	1.1%	16656
Pittsfield	11312	41.6%	5764	21.2%	1455	5.4%	1679	6.2%	3626	13.3%	243	0.9%	3087	11.4%	27167
Richmond	7656	62.9%	923	7.6%	9	0.1%	1861	15.3%	1398	11.5%	27	0.2%	298	2.4%	12172
Sandisfield	29429	86.9%	566	1.7%	15	0.0%	698	2.1%	2849	8.4%	0	0.0%	317	0.9%	33875
Savoy	20664	89.7%	399	1.7%	14	0.1%	506	2.2%	1124	4.9%	0	0.0%	339	1.5%	23048
Sheffield	17027	54.8%	1664	5.4%	180	0.6%	5644	18.2%	5630	18.1%	47	0.2%	860	2.8%	31052
Stockbridge	9224	60.9%	1061	7.0%	141	0.9%	833	5.5%	2725	18.0%	196	1.3%	970	6.4%	15149
Tyringham	9845	81.6%	247	2.0%	5	0.0%	906	7.5%	987	8.2%	0	0.0%	74	0.6%	12063
Washington	21403	86.2%	245	1.0%	8	0.0%	261	1.1%	2475	10.0%	26	0.1%	414	1.7%	24831
West Stockbridge	8582	71.8%	734	6.1%	58	0.5%	1065	8.9%	1049	8.8%	121	1.0%	341	2.9%	11949
Williamstown	21791	72.7%	1928	6.4%	149	0.5%	3872	12.9%	683	2.3%	41	0.1%	1508	5.0%	29974
Windsor	18471	82.1%	486	2.2%	13	0.1%	923	4.1%	1853	8.2%	24	0.1%	722	3.2%	22494
Berkshire County	**453601**	**74.9%**	**32291**	**5.3%**	**4365**	**0.7%**	**39215**	**6.5%**	**53198**	**8.8%**	**1571**	**0.3%**	**21156**	**3.5%**	**605397**

Source: (MassGIS, 2010)

Transportation Network

The county is serviced by one interstate highway (Rt. 90, also known as the Massachusetts Turnpike) and several main roadways. The Turnpike is the major east-west route, which travels through the southern section of the region. Other east-west routes are Route 20 in the south, Route 9 in the central region, and Route 2 in the north. Major north-south roadways are Routes 7 and 8. The locations of these roadways are on the following Map of Berkshire County. Approximately 10% of the roadways carry more than half of all vehicular traffic, 85% of which consists of automobiles and 15% of which consists of trucks. In all, there are approximately 2,000 miles of roads and streets and 700 bridges. (MassDOT, 2010) The majority of the roads are maintained by either MassDOT (11%) or the municipalities (60%). Massachusetts Department of Conservation and Recreation oversees the roadways within the state parks and forests (1.6%) while the remaining roads are either private owners or unknown.

The Berkshires mass transit system, Berkshire Regional Transit Authority (BRTA), covers the majority of the county, however its routes are mostly limited to the higher density areas. The BRTA's annual ridership is around 490,000 with the majority of usage in the cities of Pittsfield and North Adams.

The Berkshires has three local airports, the Pittsfield Municipal Airport; the Harriman-and-West Airport, North Adams' municipal airport; and the Walter J. Koladza Airport, Great Barrington's commercial airport. These small municipal airports do not offer commercial passenger service.

Figure 5 depicts the transportation infrastructure in the county.

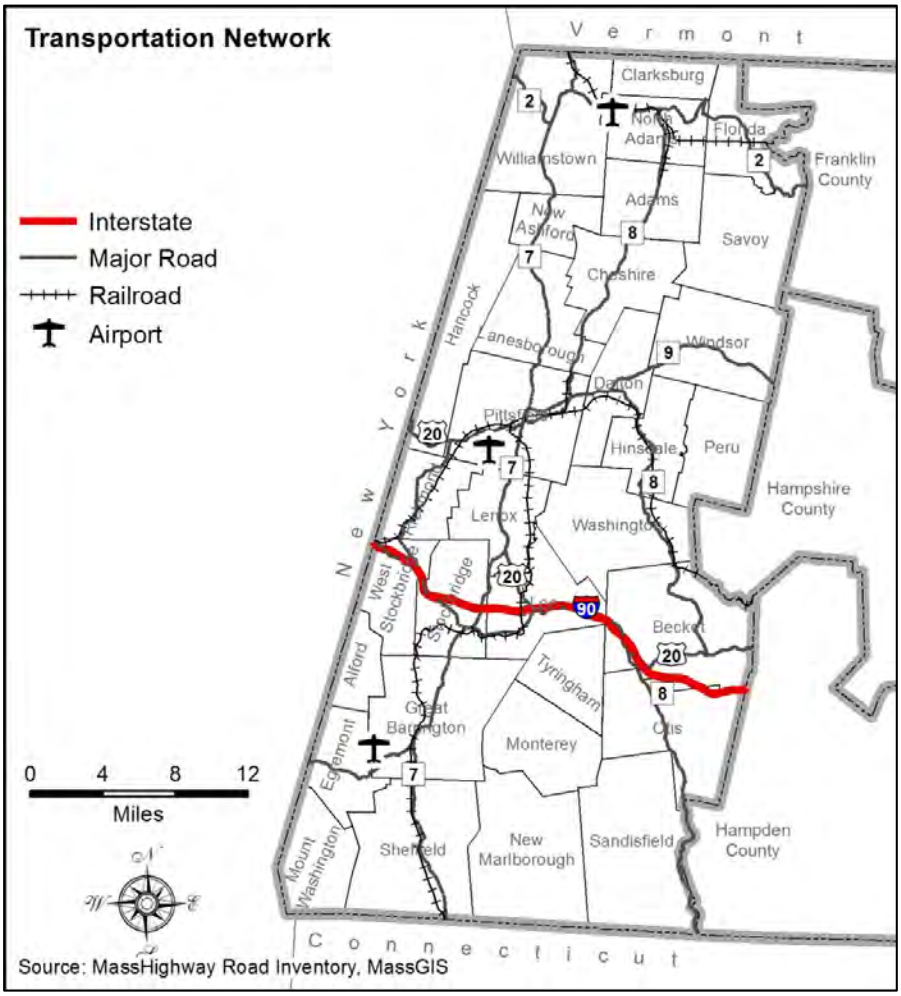

Figure 4. Transportation Network

Water Resources

The region contains two principal watersheds, the Housatonic and Hoosic. Three minor watersheds—the Farmington, Westfield, and Deerfield—all drain to the Connecticut River to the east. The region also contains portions of the Kinderhook and Bash Bish which, like the Hoosic, drain west to the Hudson River Watershed. The Housatonic drains south, discharging directly to the Long Island Sound. All of these river basins contain many smaller rivers and brooks, each with their own unique values, functions and uses.

Because of the mountainous character of the Berkshire terrain, most of its rivers have steep gradients with fast runoff of surface water. Although flooding could be a problem under these conditions, numerous small dams have been constructed to minimize flooding and flood damage. These dams have, in turn, contributed to environmental problems including stream siltation, water level and flow fluctuations, and impeded fish passage. Dams and reservoirs built for water supply or power have reduced the variability of stream floods.

The Berkshires contain over 1,125 lakes and ponds totaling almost 10,500 acres, ranging from 0.05 acres up to 684 acres (portion of Otis Reservoir). The Berkshires also contain almost 13,000 wetlands, totaling over 40,000 acres (MassGIS, 2010). This abundance of lakes, ponds and wetlands helps to control flooding in the region. Figure 5 depicts the water resources in the county.

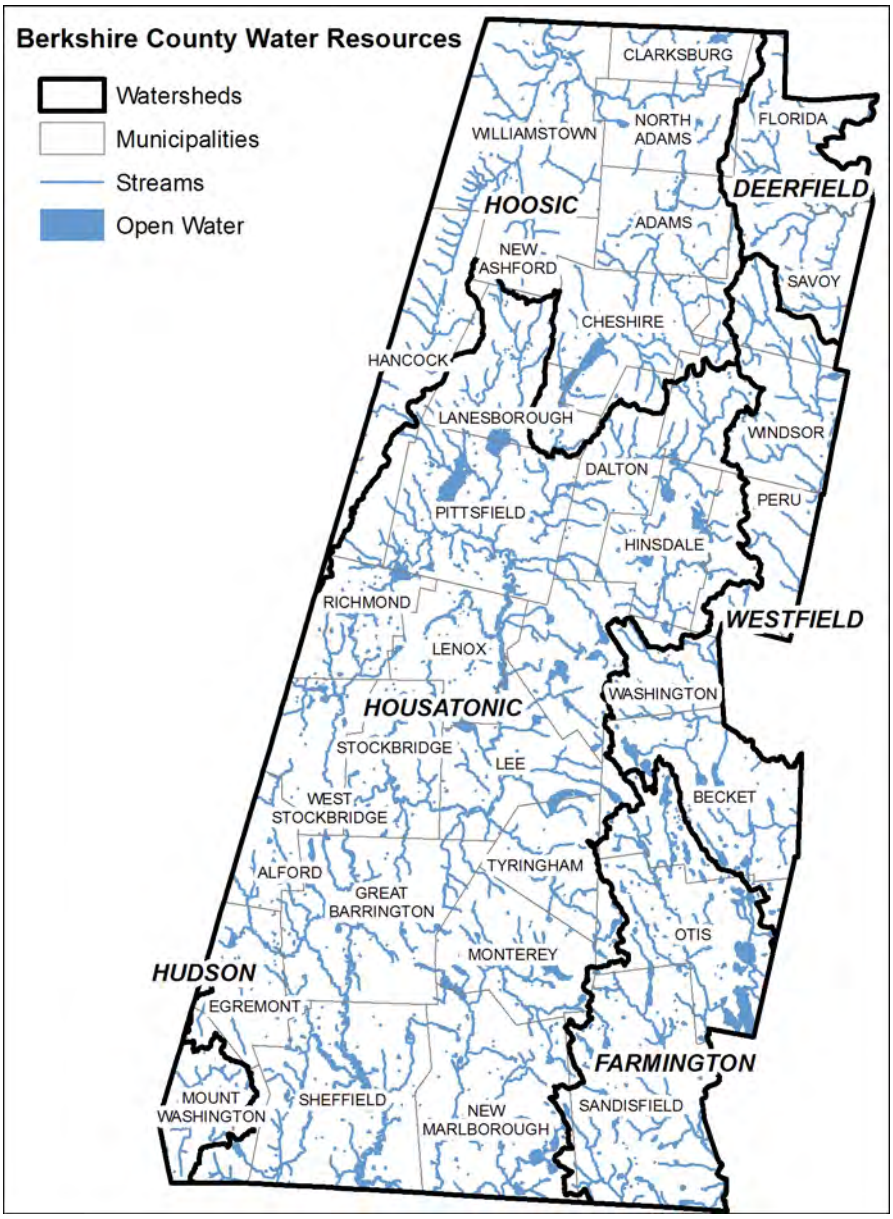

Figure 5. Water Resources

Source: (MassGIS, 2010)

Natural Hazard Identification

As part of the 2012 update of the 2005 plan, all the hazards were reviewed and updated based on recent data.

Identifying and Profiling Hazards

This section outlines the natural hazards that affect the Berkshires through documenting the past occurrences. The natural hazards identified here are based on the hazards identified in the Massachusetts State Hazard Mitigation Plan. Throughout this section the natural hazards are discussed, including past occurrences, conditions contributing to the risk and future occurrences.

Flood Related Hazards

Flooding

Previous occurrences

During the twentieth century, several 100 year floods have hit Berkshire County. In 1938 a large rain storm hit the county. This storm was considered a 100 year flood in several communities and a 500 year flood in Cheshire. Other communities were not as severely impacted by it. Due to the extensive damage created from this flood, flood chutes in Adams and North Adams were built about 15 years later by the United States Army Corps of Engineers to mitigate future flooding. On December 31, 1948 and January 1, 1949 the New Years Flood hit our region with many of our communities registering the flood as a 100 year event. In 1955 Hurricanes Connie and Diane combined to flood many of the communities in the southern and eastern portion of the county registering in 100-500 year floods (FEMA 1977-1991). In May 1984 a multi-day storm left up to 9 inches of rain throughout the southern Berkshires and 20 inches of rain in localized areas. This was reported as an 80-year flood for most of the area and higher where the rainfall was greater (USGS, 1989). The Town of Sheffield suffered extensive damage during this flood; bridges and roadways were submerged under flood waters and some were closed for several days, several roadways were completely washed out, and a bridge abutment retained structural damage. Route 7, a major transportation artery for the county, was submerged under water and was impassible.

Conditions contributing to risk

The topography of the Berkshires is often characterized by rolling hills and valleys, with historic development often occurring along the rivers. This development pattern led to substantial development within the valley communities' floodplains and little development within the floodplains for those hill-town communities. Table 6, below indicates the acreage of each community that is within the 100 year floodplain. Figure 6 shows the floodplain within each community.

Table 6. Summary of Floodplain Data per Community

Town	Acres in Community	Acres in 100-year Floodplain	Percent of Community in 100-year Floodplain	Acres of Floodplain that are developed	Percent of Floodplain Developed
Adams	14,694.49	390.99	2.66%	78.05	19.96%
Alford	7,381.32	398.73	5.40%	11.75	2.95%
Becket	30,587.11	2,622.82	8.57%	43.42	1.66%
Cheshire	17,610.64	1,207.10	6.85%	54.93	4.55%
Clarksburg	8,186.64	433.16	5.29%	40.02	9.24%
Dalton	13,996.15	464.35	3.32%	57.57	12.40%
Egremont	12,086.33	886.99	7.34%	43.13	4.86%
Florida	15,742.60	377.33	2.40%	2.24	0.59%
Great Barrington	29,292.14	3,095.44	10.57%	94.13	3.04%
Hancock	22,873.64	269.93	1.18%	6.64	2.46%
Hinsdale	13,883.89	1,868.31	13.46%	35.08	1.88%
Lanesborough	18,934.19	1,264.77	6.68%	51.15	4.04%
Lee	17,288.35	1,965.68	11.37%	220.06	11.20%
Lenox	13,866.88	1,777.78	12.82%	40.47	2.28%
Monterey	17,538.68	1,011.95	5.77%	38.39	3.79%
Mount Washington	14,329.34	0.00	0.00%	0.00	0.00%
New Ashford	8,624.02	85.91	1.00%	9.29	10.81%
New Marlborough	30,654.10	2,230.06	7.27%	56.23	2.52%
North Adams	13,193.60	1,055.20	8.00%	102.11	9.67%
Otis	24,353.11	2,395.92	9.84%	54.69	2.28%
Peru	16,663.08	144.78	0.87%	0.00	0.00%
Pittsfield	27,178.99	4,943.25	18.19%	680.25	13.76%
Richmond	12,177.90	859.48	7.06%	10.13	1.18%
Sandisfield	33,889.27	1,562.78	4.61%	75.70	4.84%
Savoy	23,057.50	159.87	0.69%	4.43	2.77%
Sheffield	31,065.20	7,016.13	22.59%	91.38	1.30%
Stockbridge	15,155.01	2,246.30	14.82%	63.28	2.82%
Tyringham	12,068.37	716.99	5.94%	19.27	2.69%
Washington	24,841.81	1,346.27	5.42%	9.20	0.68%
West Stockbridge	11,954.57	669.53	5.60%	47.99	7.17%
Williamstown	29,986.52	1,090.78	3.64%	138.40	12.69%
Windsor	22,503.50	445.54	1.98%	2.31	0.52%
Berkshire County	**605,658.94**	**45,004.28**	**7.43%**	**2,181.60**	**4.85%**

Source: (MassGIS, 2010)

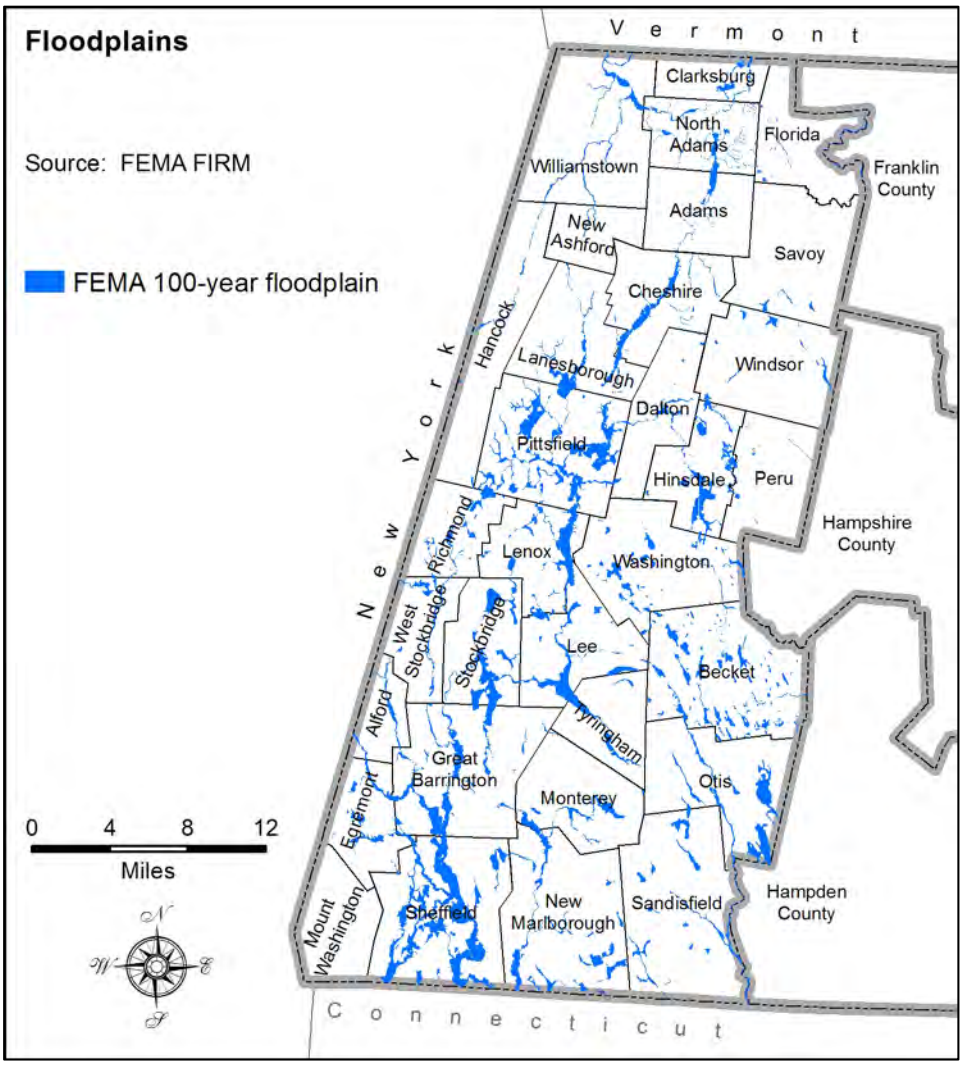

Figure 6. Floodplains

Source: (MassGIS, 2010)

As Table 6 indicates, about 7.43% of Berkshire County is in the floodplain. The individual communities range from Mount Washington, which has no floodplains delineated, to Sheffield, where 22.59% of the community is in the floodplain.

The amount of development, most particularly impervious surface area, within the floodplain affects the floodplains' ability to absorb and store water during flood events. Overall most of the floodplains in Berkshire County are relatively undeveloped. Approximately 2,180 of the 45,000 acres or 4.85% of all the floodplains are developed. However there are several communities which have much higher percentages of development within the floodplain. The Town of Adams tops this list with 19.96% of the floodplain already developed. This is followed by Pittsfield, Williamstown and Dalton at 13.76%, 12.69% and 12.40% respectively. New Ashford, Lee, Clarksburg, and North Adams also come in with a high percentage of their floodplain already developed between 9% and 12% (MassGIS, 2010).

Based on data gathered from the National Climatic Data Center, the yearly precipitation total for Berkshire County has been experiencing a gradual rise over the last 80 years. This can be seen in figure 7. According to the trend line on Figure 7, Berkshire County has seen an increase in precipitation of about 5% over the last 80 years.

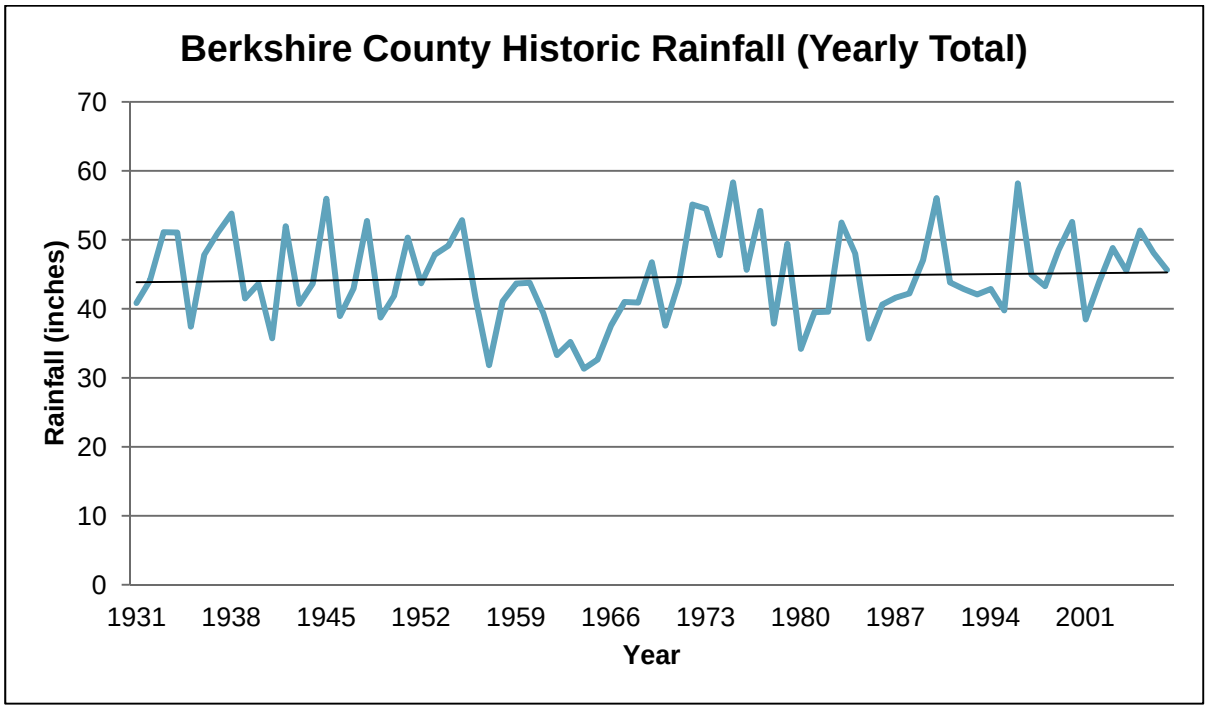

Figure 7. Berkshire County Historic Rainfall (Yearly Totals)

Source: (NOAA, 2010)

The scientific community is largely in agreement that climate change is altering the weather and precipitation patterns of the northeastern region of the U.S. The Intergovernmental Panel on Climate Change report of 2007 predicts temperature increases ranging from 2.5-5.0 degree C over the next 100 years across the U.S., with the greatest increase in the northern states and during the winter months. Many studies agree that warmer late winter temperatures will result in more rain-on-snow storm events, leading to higher spring melt flows, which typically are already the highest flows of the year.

Studies have also reported increases in precipitation in both developed and undeveloped watersheds across the northeast, with the increases being observed over a range of precipitation intensities, particularly in categories characterized as heavy and extreme storm events. These events are expected to increase both in number and in magnitude. Some scientists predict that the recurrence period for extreme storm and flood events will be significantly reduced. One study found that the 10-year storm may more realistically have a recurrence interval of 6 years, a 25-year storm may have a recurrence interval of 14 years and the 100-year storm may have a recurrence interval of 49-years.

Data from at USGS streamflow gages across the northeast show a clear increase in flow since 1940, with an indication that a sharp “stepped” increase occurred in the 1970s. This is despite the fact that much

of area within many New England watershed has been reforested, and this type of land cover change would tend to reduce, rather than increase, flood peaks.

This trend has direct implications on the design of municipal infrastructure that can withstand extreme storm and flood events, because the TP-40 Rainfall Frequency Atlas design method, which is today's engineering standard, is based on streamflow and flood data up through 1961.
It is not unusual for stormwater management systems to be 50-100 years old, or older, and new infrastructure systems are being designed to have at least a 20-50-year lifespan. Thus, the vast infrastructure systems in place today will probably not accommodate the increased flows that are predicted.

Although the scientific community is in agreement that extreme storm and flooding events will occur on some scale, they are not in agreement on the most appropriate predictive models to utilize. Without an accepted prediction model, it is difficult to calculate the sizing of future stormwater management and flood control infrastructure systems so that they will have the capacity to accommodate increased flood volumes.

It may be prudent, however, to slightly overdesign the size of new stormwater management and flood control systems so that they have the capacity to accept the increase in flow or volume without failing. For many piped systems, such as culverts, drainage ditches and swales, the slight increase in size may provide a large increase in capacity, and for very little increase in cost. If space is available, an increase in the capacity of retention/detention ponds may also be cost effective. Bioretention cells can be engineered so that they can increase their holding capacity for extreme storm events with little incremental cost. The size of the engineered soil media, which is a costly component of the system, may remain the same size as current designs call for, but a surface ponding area surrounding the central soil media is increased to serve as a holding pond.

Local public works superintendents are reporting an increase in road failures due to overwhelmed culverts, road washouts, eroding ditches, undercut road bases, and overtopped bridges. The incidents of flooding across the Berkshires are recorded in the community profiles. This information is not clearly documented, so it is not possible at this time to predict historic trends.

Future occurrences

Using our past as a guide, the Berkshires will continue to be impacted by floods. With four flood events that approached or exceeded a 100-year interval in the 20th century, we can assume that we will get a major flood event to hit our region every 25 years. In addition to this, the increase in yearly precipitation the Berkshires are experiencing as well as the amount of development that is within our floodplain, we are likely to see increased amounts of flooding and damage. Efforts to flood proof or relocate existing development within the floodplain, along with efforts to prohibit or limit new development, will decrease the potential for damage and losses in the future. Increasing the size of stormwater systems should also help in alleviating some of the damage from flooding that may occur in the future.

Bridges

Another area of concern when it comes to flooding is the condition of the bridges in the county. According to data from MassDOT, the Berkshires have 21 bridges that are structurally deficient and cross water bodies, shown in Table 7 (MassDOT, 2010). The bridges listed below have an AASHTO (American Association of State Highway and Transportation Officials) rating below 50 and are considered structurally deficient. These bridges pose a greater risk for failure during a flooding event.

Table 7. Structurally Deficient Bridges

Municipality	Roadway	Water Body	Owner	Year Build /Rebuilt	AASHTO Rating
Alford	Alford Road	Seekonk Brook	Town	1937	33.3
Becket	Quarry Road	Cushman Brook	Town	1939	51.2
Dalton	Cleveland Road	Wahconah Brook	MassDOT	1923	34.0
Lanesborough	Miner Road	Town Brook	Town	1930	33.5
Lanesborough	Narragansett Avenue	Pontoosuc Lake	Town	1965	46.1
Lee	Old Pleasant Street	Housatonic River	MassDOT	1915	49.8
New Marlborough	Hadsell Street	Konkapot River	Town	1950	28.4
New Marlborough	Hayes Hill Road	Konkapot River	Town	1936	18.5
New Marlborough	Mill River Hadsell Road	Umpachene River	Town	1938	49.5
Pittsfield	Hungerford Street	Southwest Branch Housatonic River	City	1934	40.4
Pittsfield	Hungerford Street	Southwest Branch Housatonic River	City	1947	24.0
Pittsfield	Hungerford Street	West Branch Housatonic River	City	1935	21.8
Pittsfield	Lakeway Drive	Onota Lake	City	1936	19.0
Pittsfield	Mill Street	W Br Housatonic River	City	1907	46.1
Pittsfield	New Road	West Branch Housatonic River	City	1982	41.0
Sandisfield	Clark Road Extension	West Branch Farmington River	Town	1956	31.2
Sandisfield	Norfolk Road	Sandy Brook	Town	1939	36.9
Sheffield	Kelsey Road	Schenob Brook	Town	1915	47.3
Sheffield	Route 7A	Housatonic River	MassDOT	1988	49.4
Washington	Valley Road	Depot Brook	Town	1970	33.4
West Stockbridge	Great Barrington Road	Williams River	MassDOT	1927	48.7

Source: (MassGIS, 2010)

Dam Failure

Previous occurrences

Historically, dam failure has had a low occurrence in Berkshire County. However, many of the dams within the region are more than 100 years, and some are approaching 200 years old. In September 2004 an incident occurred at the Plunkett Lake dam in Hinsdale. The first few weeks of September were unusually wet as the region received residual rain from three hurricanes that devastated Florida and areas of its neighboring states. On September 18, 2004, after the effects of Hurricane Ivan dropped more than three inches of rain on the area in 24 hours, the flash boards at the Plunkett Lake dam gave way. The Emergency Management Director for Hinsdale calculated that approximately 8 million gallons of water flooded the Housatonic River downstream of the lake, causing some minor flooding. There was no permanent damage or real estate damage, but the CSX rail line was undermined in the Hinsdale Flats area. This was largely due to beaver activity, where culverts were partially plugged; impeding and redirecting flood waters.

Conditions contributing to risk

Factors that contribute to dam failure include design flaw, age, over-capacity stress and lack of maintenance. There are over 225 public and privately-owned dams located throughout Berkshire County. A summary of these dams and their hazard can be found in Table 8 and displayed in Figure 8 Dams. These dams range in age from the Shaker Reservoir Dam built in 1700 to the Mauserts Pond Dam built in 1998, and in capacity from the Hudson Brook Dam impounding .1 acres to Otis Reservoir Dam impounding 22,000 acres (Office of Dam Safety, 2004). Maintenance, or the lack thereof, is a serious concern for many Berkshire communities. By law dam owners are responsible for the proper maintenance of their dams. If a dam were to fail and cause flooding downstream, the dam owner would be liable for damages and loss of life that were a result of the failure. Local officials are largely unaware of the age and condition of the dams within their communities.

The Massachusetts Department of Conservation and Recreation Office of Dam Safety maintains an inventory of all the known dams in the state. A synopsis of this inventory is presented below. The BRPC has been unable to obtain an updated database from DCR for the 2012 plan, so the data has not changed since the 2005 plan unless updated information was known by municipalities on the removal or repair of dams. The dam regulations are governed by Massachusetts General Law chapter 253, § 44. The height of the dam is determined by the height of the dam at the maximum water storage elevation. The storage capacity of the dam is the volume of water contained in the impoundment at maximum water storage elevation. Size class may be determined by either storage or height, whichever gives the larger size classification

Dam Size Classification

Category	Storage (acre-feet)	Height (feet)
Small	**>= 15 and <50**	**>= 6 and <15**
Intermediate	**>= 50 and <1000**	**>= 15 and <40**
Large	**>= 1000**	**>= 40**

The classification for potential hazard shall be in accordance with the table below. The hazards pertain to potential loss of human life or property damage in the event of failure or improper operation of the dam or appurtenant works. Probable future development of the area downstream from the dam that

would be affected by its failure shall be considered in determining the classification. Even dams which, theoretically, would pose little threat under normal circumstances can overspill or fail under the stress of a cataclysmic event such as an earthquake or sabotage.

Dam Hazard Potential Classification

Hazard Classification	Hazard Potential
High Hazard (Class I):	**Dams located where failure or mis-operation will likely cause loss of life and serious damage to home(s), industrial or commercial facilities, important public utilities, main highway(s) or railroad(s).**
Significant Hazard (Class II):	**Dams located where failure or mis-operation may cause loss of life and damage home(s), industrial or commercial facilities, secondary highway(s) or railroad(s) or cause interruption of use or service of relatively important facilities.**
Low Hazard (Class III):	**Dams located where failure or mis-operation may cause minimal property damage to others. Loss of life is not expected.**

Dam owners are legally responsible for having their dams inspected on a regular basis. High hazard dams must be inspected every two years, Significant Hazard dams must be inspected every five years, and Low Hazard dams must be inspected every 10 years. In addition, owners of High Hazard dams must develop Emergency Action Plans (EAPs) that outline the activities that would occur if the dam failed or appeared to be failing. Owners of Significant Hazard dams are strongly encouraged to also develop EAPs. The Plan would include a notification flow chart, list of response personnel and their responsibilities, a map of the inundation area that would be impacted, and a procedure for warning and evacuating local residents in the inundation area. The EAP must be filed with local and state emergency agencies.

Future occurrences

Based upon the conditions shown in Table 9, 26 dams in Berkshire County are in Poor or Unsafe condition. This is approximately 12% of the 226 total dams. It should be noted that this percentage could be higher as the condition of 21 dams are unknown and 58 dams are non-jurisdictional, thus they are not regularly inspected. Cheshire and North Adams both have three (3) dams in a Poor or Unsafe condition (Office of Dam Safety, 2004).

In analyzing the potential hazard posed by dams in the county, both dam condition and hazard classification must be considered. Washington has six (6) dams with a high hazard rating. Sandisfield and Hinsdale have five (5) dams, and Becket and North Adams have three (3) dams. Lee, Lenox and Pittsfield all have two (2) dams with a high hazard rating and Dalton, Monterey, Otis, Stockbridge, Tyringham, West Stockbridge, and Windsor all have one dam with a high rating. When comparing the condition of dams to the hazard of dams, three dams stand out as being in Poor or Unsafe condition, while also having a High Hazard rating: Ashmere Lake dam in Hinsdale, and Notch Reservoir and Windsor Lake dams in North Adams (Office of Dam Safety, 2004).

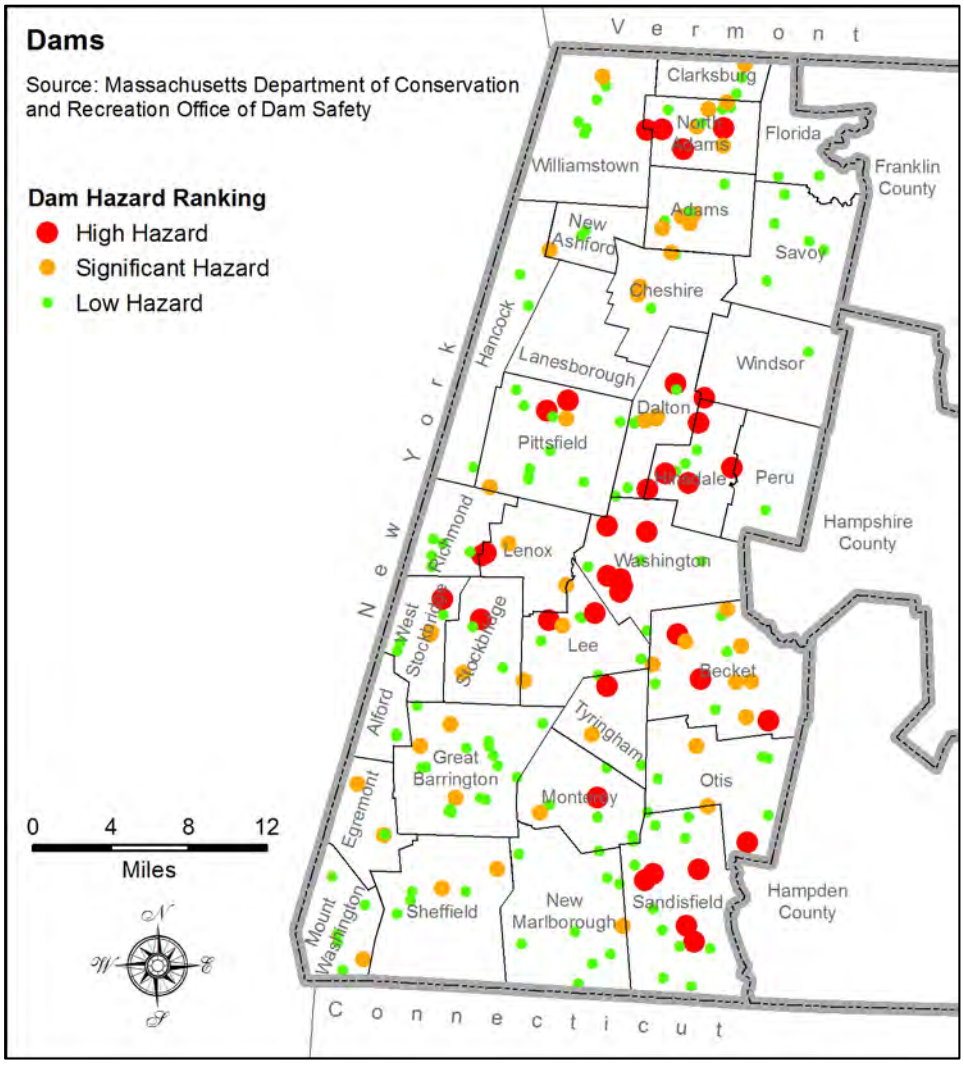

Figure 8. Dams

Source: (Office of Dam Safety, 2004)

Since the 2005 Berkshire Hazard Mitigation Plan, the state has placed an effort on repairing / removing unsafe dams. Since the 2005 plan was written, several unsafe dams have had substantial repairs, including Pontoosuc Lake Dam, Ashmere Lake Dam and Windsor Reservoir Dam. Several small dams have also been removed throughout the region.

Table 8. Dams in Berkshire County by Municipality

Size	Large			Intermediate			Small		
Hazard	***High***	***Significant***	***Low***	***High***	***Significant***	***Low***	***High***	***Significant***	***Low***
Adams					2			1	1
Alford									1
Becket	2	2		1	5	2			2
Cheshire			1		1			2	1
Clarksburg					1				
Dalton				1	1	1			2
Egremont					2				
Florida						1			1
Great Barrington		2				3		1	3
Hancock						1			1
Hinsdale	5								3
Lanesborough									
Lee	1	2		1	1				1
Lenox				2					
Monterey	1				1	1			1
Mt. Washington					1				3
New Ashford								1	2
New Marlborough					1	4			2
North Adams	2			1	3	1		1	3
Otis	1				1	2			1
Peru						1			
Pittsfield	2	1			1	2			3
Richmond						1			
Sandisfield	3		1	2	1	7			
Savoy						2			
Sheffield		2							2
Stockbridge	1	1				1			
Tyringham	1				1				
Washington	6		1			3			1
West Stockbridge	1				1				1
Williamstown				1	1	1			4
Windsor	1								1
Total	**27**	**10**	**3**	**9**	**26**	**34**	**0**	**7**	**40**

Source: (Office of Dam Safety, 2004)

*Note: This table does not include breached or non-jurisdictional dams.

Table 9. Condition of Dams

Condition	Good	Fair	Poor	Unsafe	Unknown	Breached/ Removed	Non-Jurisdictional*	Total
Adams		1	1	1	1	3	2	9
Alford		1					1	2
Becket	3	6	1		4	2	2	18
Cheshire	1	1	3				1	6
Clarksburg	1						2	3
Dalton	2	3			1	2	2	10
Egremont		2			1			3
Florida	1				1		1	3
Great Barrington	3	2	2		2		9	18
Hancock		1	1				1	3
Hinsdale	1	4	1		2			8
Lanesborough							1	1
Lee	3	3					4	10
Lenox	2					1	2	5
Monterey	1	2	1			1	2	7
Mt .Washington		4					2	6
New Ashford		1		1	1			3
N. Marlborough	4	2	1				3	10
North Adams	2	5	3		1		1	12
Otis		3	1	1			2	7
Peru		1						1
Pittsfield	2	5	1	1		1	3	13
Richmond					1		4	5
Sandisfield	4	7			3		2	16
Savoy		1	1				3	5
Sheffield		4					2	6
Stockbridge	1	1		1			1	4
Tyringham	2						1	3
Washington	5	4	2				1	12
W. Stockbridge		3					3	6
Williamstown		2	2		3	1		8
Windsor	2					1		3
Total	**40**	**69**	**21**	**5**	**21**	**12**	**58**	**226**

Source: (Office of Dam Safety, 2004)

*Non-jurisdictional dams are defined as being less than 6 feet in height and store less than 15 acre-feet of water. There is no data available on the condition of these 69 dams because the Office of Dam Safety does not inspect these dams.

Ice Jams

Previous occurrences

There have been a reported 41 ice jams that have occurred in Berkshire County between 1915 and 2010. The West Branch of the Farmington River in Sandisfield account for 18 of these jams. This is followed by Marsh Brook in Lenox with 11 jams, followed by the Green River in Williamstown with three (3) jams, Dry Brook in Adams with three (3) jams, and the Hoosic River in Adams with two (2) jams. The Buck River in Sandisfield, the Housatonic River in Great Barrington, the Green River in Great Barrington, and the Schenob Brook in Sheffield all have had 1 ice jam as shown in Table 16 (NOAA, 2010). From 1963 to 1974, 25 of the 41 ice jams were reported and only two has been reported since 1980. It is not known why this discrepancy is occurring. It may be that ice jams are less frequent due to natural occurrences, manmade intervention or that the records have not been kept as well.

Conditions contributing to risk

Heavy snowfall and frigid temperatures throughout the Northeast increase the chance of flooding from snowmelt and ice jams. When river ice piles up at shallow areas, bends and islands it blocks the flow of water and may cause flooding of nearby homes and businesses. Ice jams that become lodged within the abutment of bridges can threaten the integrity of the structures. Heavy equipment, such as cranes with wrecking balls and explosives may have to be used to break up ice jams to reduce potential property and structural damages and losses.

Future occurrences

With the climatic conditions that occur in Berkshire County, ice jams will continue in the foreseeable future. Ice jams will continue to cause damage to bridges and roads and buildings within the floodplain. The only way to reduce the impact of ice jams is to reduce the threat. This can be done whenever a bridge or dam is reconstructed as that tends to be where ice jams.

Coastal Storms

Coastal storms have not been addressed in this plan as Berkshire County does not have any coast line and is over 50 miles from the coast.

Table 10. Ice Jams

Community	River Name	Date
Great Barrington	Green River	12/2008
Sandisfield	Buck River	1/21/1994
Great Barrington	Housatonic River	2/1/1979
Lenox	Marsh Brook	1/13/1974
Sandisfield	West Branch Farmington River	2/3/1973
Lenox	Marsh Brook	2/3/1973
Lenox	Marsh Brook	3/17/1972
Lenox	Marsh Brook	3/4/1971
Sheffield	Schenob Brook	3/1/1971
Sandisfield	West Branch Farmington River	2/3/1970
Lenox	Marsh Brook	1/28/1969
Sandisfield	West Branch Farmington River	3/19/1968
Lenox	Marsh Brook	3/18/1968
Adams	Dry Brook	3/18/1968
Lenox	Marsh Brook	3/17/1967
Lenox	Marsh Brook	2/13/1966
Adams	Hoosic River	12/2/1965
Great Barrington	Green River	3/12/1965
Sandisfield	West Branch Farmington River	2/8/1965
Lenox	Marsh Brook	2/8/1965
Adams	Hoosic River	2/8/1965
Williamstown	Green River	2/8/1965
Adams	Dry Brook	2/8/1965
Lenox	Marsh Brook	3/5/1964
Sandisfield	West Branch Farmington River	1/25/1964
Lenox	Marsh Brook	3/23/1963
Adams	Dry Brook	3/14/1963
Sandisfield	West Branch Farmington River	1/5/1963
Sandisfield	West Branch Farmington River	3/6/1959
Williamstown	Green River	1/21/1959
Sandisfield	West Branch Farmington River	1/23/1957
Williamstown	Green River	1/23/1957
Sandisfield	West Branch Farmington River	3/17/1948
Sandisfield	West Branch Farmington River	1/31/1947
Sandisfield	West Branch Farmington River	1/6/1946
Sandisfield	West Branch Farmington River	3/9/1942
Sandisfield	West Branch Farmington River	2/8/1941
Sandisfield	West Branch Farmington River	3/12/1936
Sandisfield	West Branch Farmington River	2/12/1925
Sandisfield	West Branch Farmington River	2/20/1918
Sandisfield	West Branch Farmington River	1/14/1917
Sandisfield	West Branch Farmington River	2/26/1916

Source: (NOAA, 2010)

Atmospheric and Winter Related Hazards

Hurricane / Tropical Storm

Previous occurrences

The National Oceanic and Atmospheric Administration (NOAA) has been keeping records of hurricanes since 1858 (Table 11). From 1858 to 2010, the Berkshires have had four (4) Tropical Depressions, five (5) Tropical Storms, one (1) Category 1 Hurricanes, and one (1) Category 2 Hurricane pass directly through the county. The following table depicts these storms. The effects of hurricanes and tropical storms however are often felt much farther away from the direct path. During this same period, an additional nine (9) Tropical Depressions, 37 Tropical Storms, nine (9) Category 1 Hurricanes, four (4) Category 2 Hurricanes, and one (1) Category 3 Hurricane have passed within 100 miles of Berkshire County (Northeast States Emergency Consortium, 2010). Figure 9 displays the historic tracks of hurricanes across the region.

Category	Winds (sustained)	Summary
1	74-95 mph	Very dangerous winds will produce some damage
2	96-110 mph	Extremely dangerous winds will cause extensive damage
3	111-130 mph	Devastating damage will occur
4	131-155 mph	Catastrophic damage will occur
5	> 155 mph	Catastrophic damage will occur

Table 11. Hurricanes and Tropical Storms which have passed directly through Berkshire County (1858-2010)

Date	Type	Name	Wind Speed
9/19/1876	Tropical Depression	Unnamed	30
10/24/1878	Tropical Storm	Unnamed	60
8/24/1893	Category 1	Unnamed	75
8/29/1893	Tropical Storm	Unnamed	55
11/1/1899	Tropical Storm	Unnamed	45
9/30/1924	Tropical Storm	Unnamed	65
9/21/1938	Category 2	Unnamed	85
9/19/1945	Tropical Depression	Unnamed	35
9/1/1952	Tropical Depression	Able	30
10/1/1959	Tropical Depression	Gracie	30
8/28/1971	Tropical Storm	Doria	45

Source: (Northeast States Emergency Consortium, 2010)

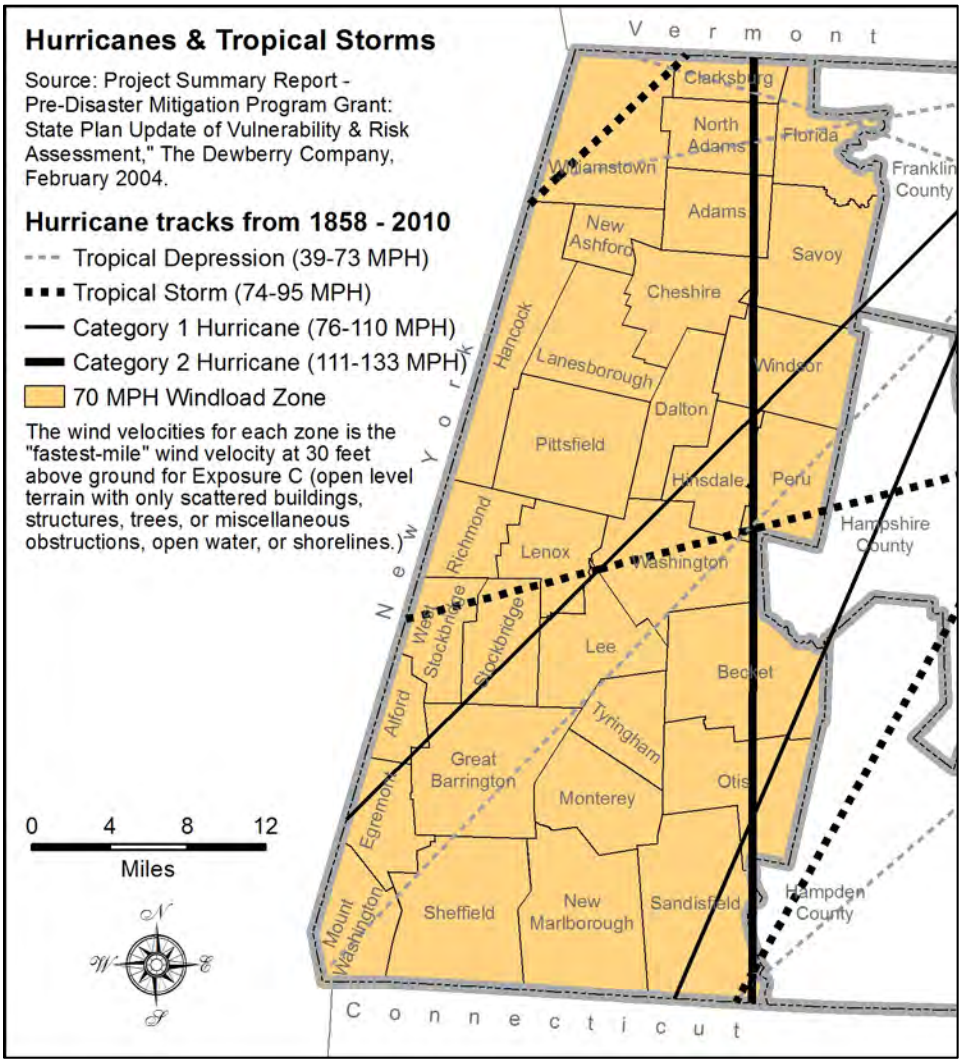

Figure 9. Hurricanes and Tropical Storms

Source: (Northeast States Emergency Consortium, 2010)

Conditions contributing to risk

According to NOAA, tropical storm season lasts from June 1 to November 30, and an average of 10 tropical storms develop along the eastern seaboard each year. On average, five of these 10 become hurricanes. These storms generally develop in the Atlantic or the Caribbean Sea and typically lose strength as they travel northward towards New England (MEMA 2004a.) Hazardous conditions are created by high winds and heavy rains. In Berkshire County, Hurricanes and Tropical Storms are generally limited to the months of August, September, and October, with a few storms arriving in May, June, July or November as shown in Table 12.

Table 12. Hurricanes and Tropical Storms by Month within 100 miles of Berkshire County

Month	Number of Storms
May	2
June	4
July	2
August	13
September	26
October	11
November	2
Total	**60**

Source: (NOAA, 2010)

Future occurrences

Over the last 160 years, Berkshire County has experienced a direct hit approximately once every 15 years. Combining these with those that have impacted but not directly crossed over the county, the Berkshires are impacted by a hurricane or tropical storm less then every three years on average. Based on past storm events, and given the center of the county is approximately 85 miles to the Long Island Sound and 115 miles to Boston Harbor, the Berkshires will continue to be impacted by hurricanes and tropical storms.

Tornados

The location of tornado impact is totally unpredictable. Tornadoes are fierce phenomena which generate wind funnels of up to 200 MPH or more, and occur in Massachusetts usually during June, July, and August. Worcester County, and areas just to its west have been dubbed the "tornado alley" of the state, as the majority of significant tornadoes in Massachusetts weather history have occurred in that region.

Previous occurrences

The National Climatic Data Center reports data on tornado events, and does so as far back as 1950. Since 1950, there have been 16 tornados that have occurred in Berkshire County. The most recent of these was in June 2005. Starting in 2007, tornados are rated based on the Enhanced Fujita Tornado Scale. Prior to 2007 tornados were based on the Fujita Tornado Scale.

Enhanced Fujita Tornado Scale

Scale No. (Category)	Winds (mph)	Frequency	Potential Damage
EF0	**65-85**	**53.5%**	**Minor or no damage** - peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	**86-110**	**31.6%**	**Moderate damage** - Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken
EF2	**111-135**	**10.7%**	**Considerable damage** - Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	**136-165**	**3.4%**	**Severe damage** - Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations are badly damaged.
EF4	**166-200**	**0.7%**	**Extreme damage** - Well-constructed and whole frame houses completely leveled; cars and other large objects thrown and small missiles generated.
EF5	**>200**	**<0.1%**	**Total destruction of buildings** - Strong framed, well built houses leveled off foundations and swept away; steel-reinforced concrete structures are critically damaged; tall buildings collapse or have severe structural deformations.

Of the 16 tornados that have occurred in the region, all have occurred prior to 2007 and still are classified with the Fujita scale. Three (3) have been rated as F0 on the Fujita Tornado scale, five (5) have been F1, six (6) have been F2, and two (2) have been F4. These have resulted in over $28 million in damage, seven deaths, and 60 injuries. The table below (Table 13) summarizes the tornados that have hit Berkshire County since 1950. Four of these tornados occurred during a single storm on July 3, 1997 (NOAA, 2010). A display of the tornados can be found on figure 10.

The most memorable tornados in recent history occurred in August of 1973 and May of 1995. In the latter event, three people died and several were injured. The sign of the tornados destruction are still visible today in Great Barrington from Rt. 7, just north of the fairgrounds. The hill to the east is scarred where the tornado uprooted and toppled trees – they lie scattered on the hillside like matchsticks.

Tornados generally occur during the summer months, as 13 of the 16 tornados occurred between June and August; however Tornados have struck as early as March 1 and as late as October 3 as shown in Table 14. (NOAA, 2010)

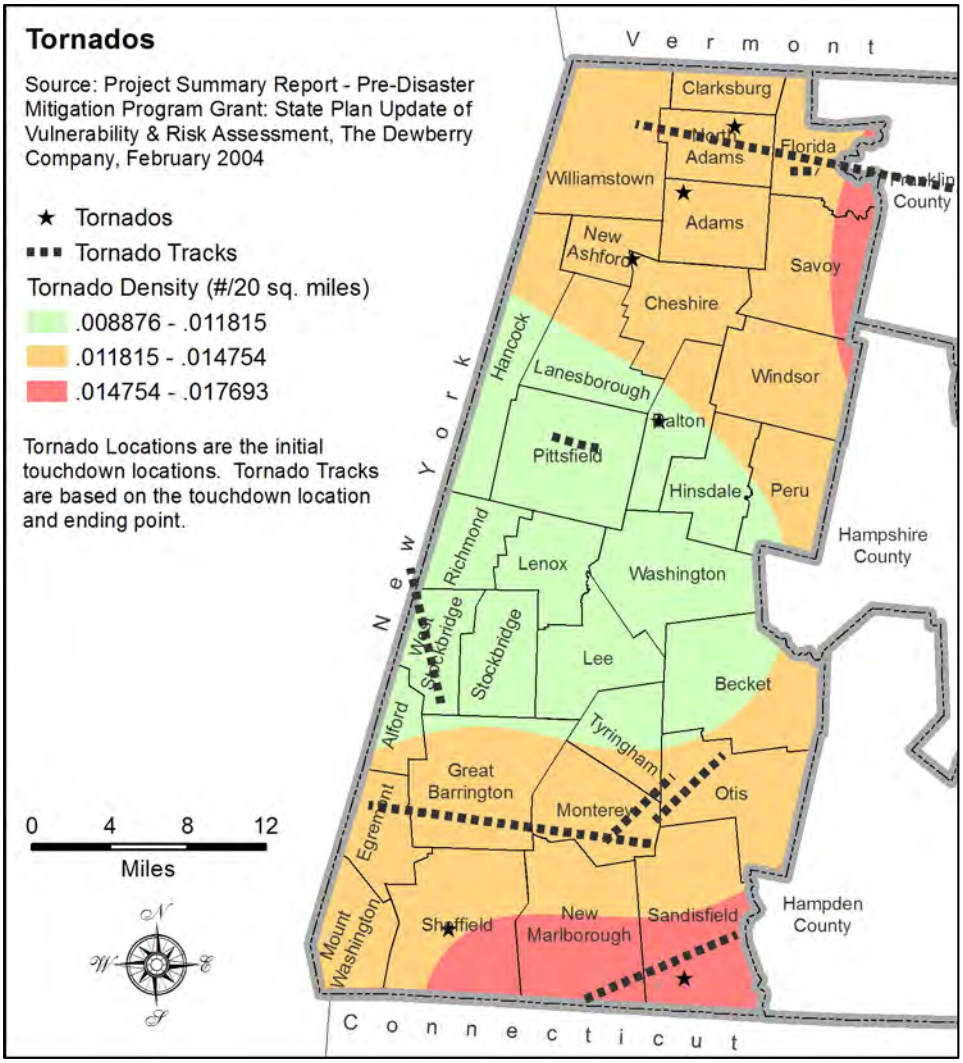

Figure 10. Tornados

Source: (Northeast States Emergency Consortium, 2010)

Conditions contributing to risk

Based on tornado densities derived by tornado locations by the state, Berkshire County can range from approximately .008 to .018 tornados/20 square miles, with the north and south sections of the county experiencing the greater threat. This equates to approximately .4 to .9 tornados / 1,000 square miles. Berkshire County is approximately 946 square miles, so this is a good approximation for Berkshire County.

Future occurrences

From 1950 to 2010 there has been, on average, one tornado approximately every 3.75 years. With 8 of the 16 tornados being classified as a relatively weak F0 or F1 tornado, the remaining 8 tornados are

classified as major F2 or higher tornados and can be expected approximately every 7.5 years. (NOAA, 2010)

Table 13. Tornados between 1950 and 2010

Date	Town	Property Damage	Category	Deaths / Injuries
7/12/1955	Sheffield	0	F2	0
10/3/1963	Cheshire	3,000	F1	0
3/1/1966	Adams	25,000	F2	0
8/11/1966	New Marlborough / Sandisfield	25,000	F2	0
6/18/1970	Williamstown / North Adams / Florida	250,000	F1	0
8/28/1973	West Stockbridge	25,000,000	F4	4/36
7/13/1975	Dalton	25,000	F2	0
7/27/1978	Sandisfield	0	F0	0
7/11/1984	North Adams	25,000	F1	0
5/29/1995	Egremont / Great Barrington / Monterey	250,000	F4	3/24
7/3/1997	Florida	15,000	F1	0
7/3/1997	Monterey	1,500,000	F2	0
7/3/1997	Otis	1,500,000	F2	0
7/3/1997	Richmond	50,000	F1	0
8/20/2004	Pittsfield	25,000	F0	0
6/29/2005	Great Barrington	0	F0	0
Total		**28,693,000**		**7/60**

Source: (NOAA, 2010)

Table 14. Tornados by Month

Month	Count
March	1
May	1
June	2
July	8
August	3
October	1

Source: (NOAA, 2010)

Severe Thunderstorms / High Winds/ Hail

Past occurrences

During the period from 1993 to 2010, 330 severe storms comprising of thunderstorms, wind, or hail have occurred in Berkshire County. This comes out to 18.3 severe storms per year. Examining the thunderstorms and high winds separately from the hail indicates that Berkshire County has received 228 thunderstorms and high wind events over the 18 year period, or 12.7 per year and 102 hail events over the same period, or 5.7 events per year (NOAA, 2010).

Taking a look at the severe storms by month (Table 15), it indicates that the storms have occurred every month of the year. However the majority of the storms have occurred between May and August with July being the highest month. While thunderstorms and high winds have occurred during every month, hail has only occurred between April and September, with the highest number of events being between May and July. (NOAA, 2010)

Table 15. Severe Storms (1993-2010) by Month

	Thunderstorms & Winds	Hail	Total
January	5	0	5
February	6	0	6
March	3	1	4
April	4	2	6
May	27	22	49
June	29	28	57
July	73	26	99
August	42	18	60
September	8	6	14
October	6	0	6
November	7	0	7
December	17	0	17

Source: (NOAA, 2010)

One of the ways severe storms impact the region the most is through electrical outages. During severe storms, tree branches often fall and cause a break in an electric line, causing power outages for the local residents. Beyond severe storms, winter storms, including ice storms, as well as other types of hazards can also impact the electrical system. The electric companies trim an envelope around the electric lines, however the bigger problem occurs when trees and branches outside of that envelope, upwards of 60-80 feet away, break and fall onto the lines, causing outages. The utilities believe it is the municipal, state and private land owners responsibility for these trees and not the utility companies, yet the utility companies are blamed and expected to clean up and resolve the problem trees. Most communities have reported an improvement in response from the electric companies since the ice storm in 2008, but reducing the risk of electrical outages during severe storms needs to improve.

Conditions contributing to risk

Severe storms can affect Berkshire County in any municipality as shown in Table 16. The only municipality that stands out is Pittsfield, which has the highest number of thunderstorms and high wind events and the highest number of hail events. No relationship could be determined between the community's location in the county and the number of severe storm events as the communities with larger populations reported more events, but that does not necessarily mean they had more events then the communities with a smaller population.

Table 16. Severe Storms (1993-2010) by Municipality

Town	Thunderstorms & High Winds	Hail
Berkshires (not defined by town)	43	0
Adams	5	5
Alford	2	0
Becket	6	5
Cheshire	9	2
Clarksburg	0	0
Dalton	2	3
Egremont	2	1
Florida	2	0
Great Barrington	15	8
Hancock	0	1
Hinsdale	1	2
Lanesborough	11	1
Lee	10	5
Lenox	13	9
Monterey	3	2
Mount Washington	0	1
New Ashford	0	2
New Marlborough	5	4
North Adams	21	11
Otis	7	10
Peru	2	1
Pittsfield	34	11
Richmond	5	0
Sandisfield	1	2
Savoy	2	0
Sheffield	3	1
Stockbridge	10	3
Tyringham	1	0
Washington	2	1
West Stockbridge	2	2
Williamstown	8	3
Windsor	1	5

Source: (NOAA, 2010)

Future occurrences

Severe storms comprising of thunderstorms, high winds, and hail will continue to affect all of Berkshire County. While these events may occur during any month, they most likely will occur between May and August. The communities in the Hoosic and Housatonic Valleys will tend to get hit more often than the hilltown communities for severe thunderstorms and high winds, but all of the communities can be impacted.

Winter Storms (Heavy Snow / Nor'easters / Blizzard / Ice)

Winter storms are the most common and most familiar of Massachusetts hazards which affect large geographical areas. The majority of blizzards and ice storms in the Commonwealth cause more massive inconvenience than they do serious property damage, injuries, or deaths. However, periodically, a storm will occur which is a true disaster, and necessitates intense, large-scale emergency response.

A winter storm is very challenging to emergency management personnel because, even though it has usually been forecast, there is no certain way of predicting its length, size, or severity. For these reasons, it is imperative that local communities have clear and strict policies governing school and business closings, road use, parking, and other factors that could affect the management of a serious snowstorm. It is also crucial that all snow management equipment, supplies, and personnel be in place and ready to respond to a winter storm emergency.

MEMA monitors the NWS alerting systems during periods when winter storms are expected, and serves as the primary coordinating arm in the state-wide management of all types of winter storms. The MEMA EOC may be put on standby at the discretion of the Director even before a 'storm warning' is issued. The local community is responsible for the basic management of winter storm responses. When local resources for winter storm management are exhausted, assistance can be requested through MEMA.

Past occurrences

Of the 16 federally declared natural disasters that have affected Berkshire County, nine (9) of these have been winter storms as shown in Table 17.

The National Climatic Data Center (NCDC), a division of NOAA, reports statistics on severe winter storms from January 1993 through February 2010. This data illustrates 17 years of winter storm history for Berkshire County.

During this 17-year span, Berkshire County experienced 140 severe winter storms, an average of 8 per winter. This number varies each winter, ranging from one (1) during the winter of 1994-95 to 23 during 2008-2009. Table 18 shows the type of winter storms to have affected the region from 1993-2010 (NOAA, 2010). The data indicates that more storms are occurring then in the past, but it is believed that the reporting of the data got more comprehensive over the last few years.

Table 17. Snow Related Disasters

DISASTER NAME (DATE OF EVENT)	DISASTER # (TYPE OF ASSISTANCE)
March Blizzard (March 1993)	FEMA-3103-EM (Public)
January Blizzard (January 1996)	FEMA-1090-EM (Public)
March Blizzard (March 2001)	FEMA-3165-EM (Public)
February Blizzard (February 17-18, 2003)	FEMA-3175-EM (Public)
December Blizzard (December 6-7 2003)	FEMA-3175-EM (Public)
January Blizzard (January 22-23, 2005)	FEMA-3201-EM (Public)
April Nor'easter (April 15-25, 2007)	FEMA-1701-DR-MA
December Ice Storm (December 11, 2008)	FEMA-1813-DR-MA (Public)
January Snow Storm (January 11-12, 2011	FEMA-DR-1959

Source: (Federal Emergency Management Agency, 2011)

Nearly all of the severe winter storms that have affected Berkshire County have occurred between December and March, as 128 of the 140 (91.43%) came in one of these four months. The most likely month for a winter storm was January, when 27.86% of all winter storms have occurred. (NOAA, 2010) This data is presented in Table 9.

Another component of snow events is the 1 and 3 day record snowfall totals. For 1 day record snowfall totals, 99% of the county falls within the 12 to 24 inch total with the remaining 1 percent falling in the 24 to 36 inch total. In the 3 day record snowfall total, 36% of the county falls within the 12 to 24 inch total and the remaining 64% falls within the 24 to 36 inch total (Northeast States Emergency Consortium, 2010). The majority of the 64% is in the southern part of the county where the temperature may be a bit warmer but it is a bit closer to the ocean, so it may get more moisture.

Table 18. Winter Storms in Berkshire County, 1993-2010 by Type of Storm

	No. of Storms	% of Total
Blizzard	1	0.71%
Freezing Rain	3	2.14%
Heavy Snow	40	28.57%
Ice Storm	2	1.43%
Light/Moderate Snow	3	2.14%
Winter Mix	1	0.71%
Winter Storm	52	37.14%
Winter Weather	38	27.14%
Total	**140**	

Source: (NOAA, 2010)

Table 9. Winter Storms in Berkshire County, 1993 – 2003 by Month

	No of Storms	% of Total
November	8	5.71%
December	28	20.00%
January	39	27.86%
February	32	22.86%
March	29	20.71%
April	4	2.86%
Total	**140**	

Source: (NOAA, 2010)

Conditions contributing to risk

Berkshire County's location in Western New England places it at a high-risk for winter storms. While the county may not get the heavy snowfall associated with coastal storms, the severe storms that the county gets are added to the high annual snowfall the county normally gets, making conditions dangerous.

45% of Berkshire County is considered in a High snow fall area (48.1"-72" /year), while the remaining 55% is considered to be in an Intense snow fall area (> 72" /year.) All of the communities within Berkshire County are covered to some degree by the intense snow fall area, but some communities are entirely within the intense snowfall area, including Florida, Savoy, Windsor, Peru, Hinsdale, Washington,

and Becket. The intense snow fall areas tend to be the areas of higher elevation within the county. (Northeast States Emergency Consortium, 2010)

Future occurrences

Using history as a guide for future severe winter storms, it can be assumed that Berkshire County will be at risk for approximately five severe winter storms per winter. The highest risk of these storms occurs in January with significant risk also occurring in December through March. However, as can be seen in Figure 11, the annual snowfall totals have been trending downward over the last few decades. This indicates that the county is getting less snowfall then previous years and can expect less snowfall in future years. This does not mean the county will not get years with high snowfall amounts (2010-11 had over 100 inches), but the trend indicates that the yearly snowfall total will continue to go down.

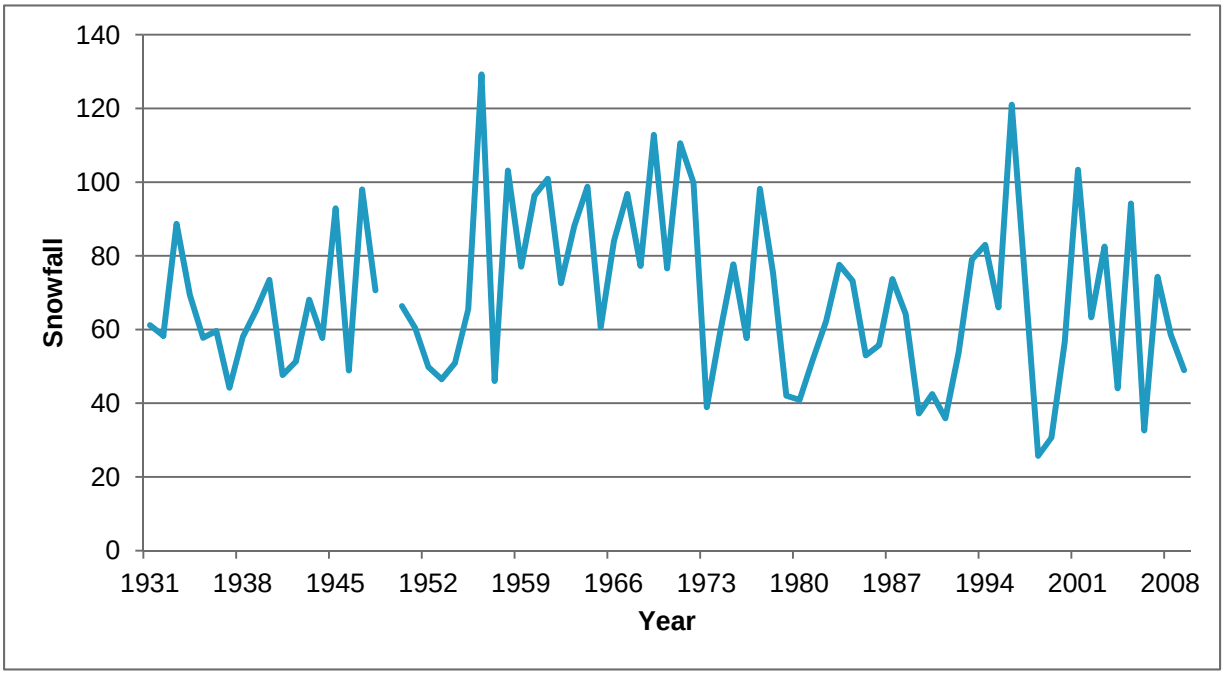

Figure 11. Snowfall (NOAA, 2010)

Geologic Hazards

Earthquakes

Previous occurrences

Of the 144 earthquakes recorded in the Massachusetts between 1668 and 1997, only three have occurred in the Berkshires. These have occurred in 1932, 1963 and 1982. The 1932 event occurred at Lake Garfield in Monterey, but the magnitude is unknown. The 1963 earthquake, which registered as 2.4, is reported to have occurred in North Adams, but BRPC found the data unreliable, as the geographic coordinates given by the USGS put it in Savoy. The 1982 earthquake also occurred in North Adams and is registered at 2.0. (The Dewberry Company, 2004)

Conditions contributing to risk

The most commonly used method to quantify potential ground motion is in terms of peak ground acceleration (PGA). During an earthquake, particles on the earth move in response to the energy waves released at the epicenter. How quickly these particles accelerate is directly proportionate to the anticipated level of damages due to an earthquake, with the higher levels of acceleration causing the most significant damage. Peak ground acceleration is expressed as a percentage of a known acceleration, the acceleration of gravity ($9.8m/s^2$), and is commonly referred to as "percent g" (MEMA, 2004a). The Majority of Berkshire County has a Peak Ground Acceleration (%g) of 10, while portions in South County, including the towns of Mount Washington, Sheffield, New Marlborough, and Sandisfield have a PGA of 12. Part of Williamstown also has a PGA of 12. These areas can be found in Figure 12 Earthquakes.

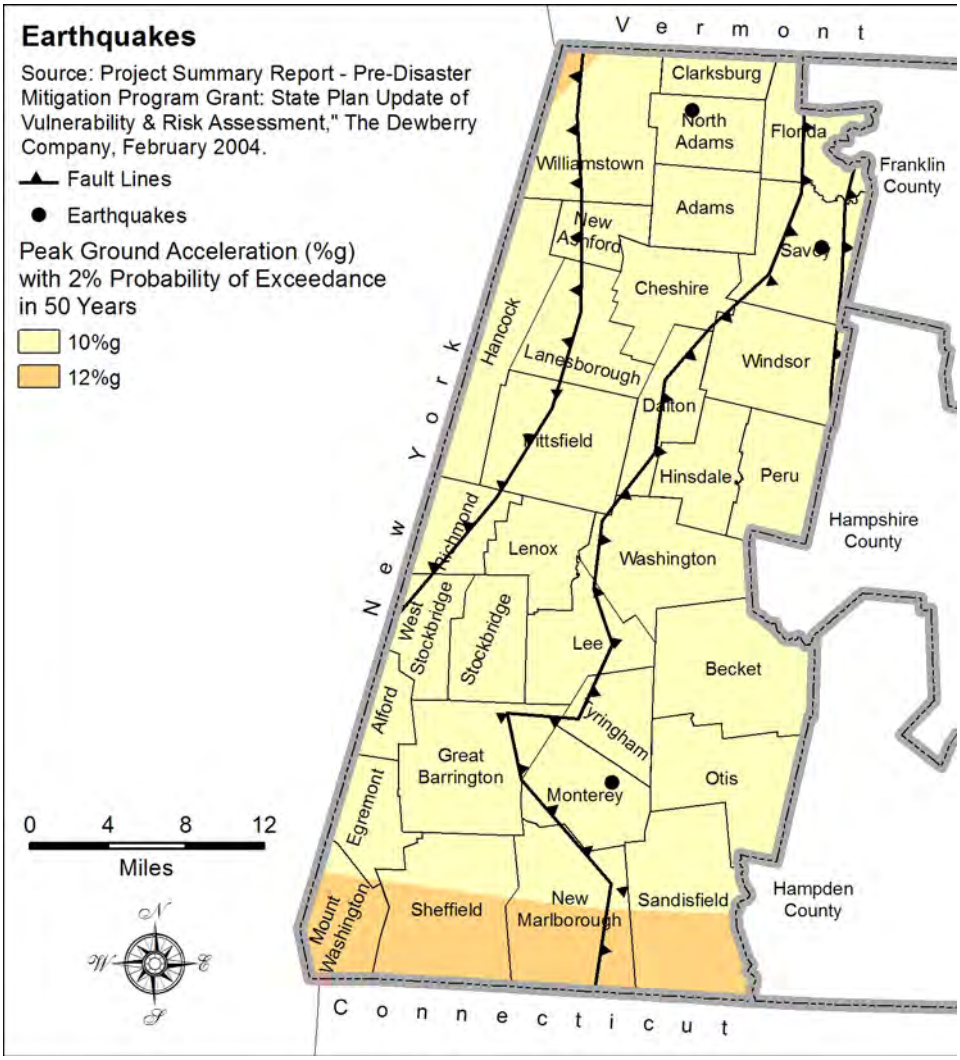

Figure 12. Earthquakes

Although New England has not experienced a damaging earthquake since 1755, numerous, less powerful earthquakes have been centered in Massachusetts and neighboring states. Seismologists state

that a serious earthquake occurrence is possible. There are five normal faults in Massachusetts, three of these traverse portions of Berkshire County, but there is no discernable pattern of previous earthquakes along these fault lines. Earthquakes can occur without warning, can occur anywhere within the county, and may be followed by aftershocks. Most buildings and infrastructures in Massachusetts were constructed without specific earthquake resistant design features. Filled, sandy or clay soils are more vulnerable to earthquake pressures than other soils.

Future occurrences

Based on the historic occurrences, which have been few and of limited severity, Berkshire County could be considered to be at a low risk for major earthquake damage in the future. Because the region's geologic faults zones do not correlate well to earthquake locations or aid in predication of occurrence, it is difficult to identify reasonably affordable mitigation measures

Landslides

The term landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. Although gravity acting on an over steepened slope is the primary reason for a landslide, there are other contributing factors, such as: erosion by rivers, glaciers, or ocean waves created over steepened slopes; rock and soil slopes weakened through saturation by snowmelt or heavy rains; earthquakes created stresses that make weak slopes fail. (MEMA & DCR, 2010)

According to the USGS, "The term landslide includes a wide range of ground movement, such as rock falls, deep failure of slopes, and shallow debris flows. Although gravity acting on an over steepened slope is the primary reason for a landslide, there are other contributing factors." Among the contributing factors are: erosion by rivers, glaciers, or ocean waves create over steepened slopes; rock and soil slopes weakened through saturation by snowmelt or heavy rains; earthquakes create stresses that make weak slopes fail; and excess weight from accumulation of rain or snow, and stockpiling of rock or ore, from waste piles, or from man-made structures. USGS scientists also monitor streamflow, noting changes in sediment load carried by rivers and streams that may result from landslides. All of these types of landslides are considered aggregately in USGS mapping of landslides. (MEMA & DCR, 2010)

Previous Occurrence

While the Berkshires have had previous landslides, the data on them is very limited and there is nothing that can be presented in this report. Most of the landslides in the region tend to be rock falls, such as the rock fall on Route 7 in New Ashford which closed a portion of the road for over a year, or very small landslides that may affect small portions of a road.

Conditions contributing to risk

The Berkshires are considered to be a low risk for landslides; however, the northern portion of the county is classified as having a moderate incidence and high susceptibility as shown on Figure 13. Regardless of this classification, areas throughout the county have to be cognizant of the risk of landslides and take appropriate actions to limit the chance of landslides.

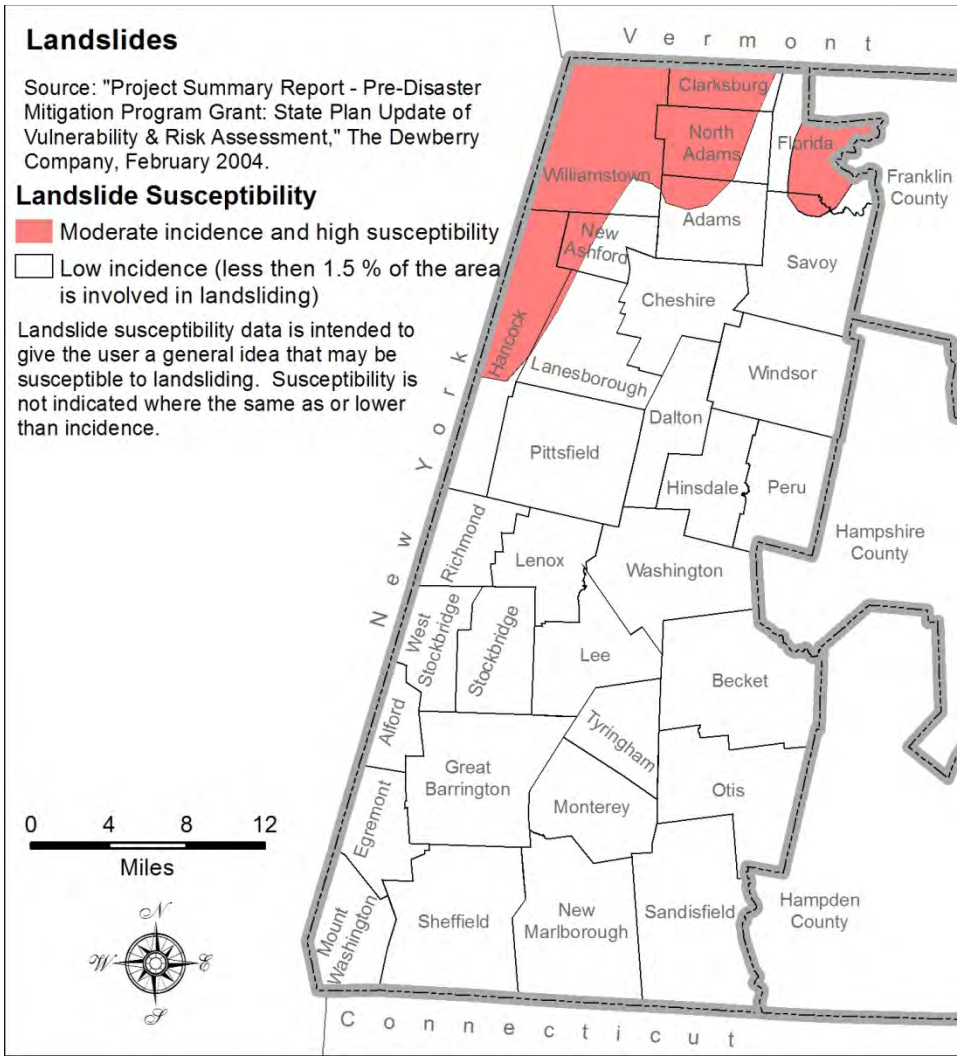

Figure 13. Landslides

Other Natural Hazards

Wildland fire / Major Urban Fire

Previous occurrences

Table 17 shows the number of wildfires that have occurred in Berkshire County. Most of the totals represent fires between 1995-2000. Note that Becket and Washington totals represent 2002-2004 Pittsfield has the highest number of fires at 198, but Otis has the highest acreage at 1,860. The BRPC was unable to obtain updated information from the state for the 2012 plan, however will continue to reach out to the state in coming years to have updated information for the 2017 update.

Table 17. Fire Totals and Acreage

Town	Total Fires (1995-2000)	Acreage	Acreage /Fire
Adams	4	2.00	0.50
Alford	1	0.25	0.25
*Becket**	*15*	*31.2*	*0.42*
Cheshire	7	5.50	0.79
Clarksburg	4	2.25	0.56
Dalton	4	1.75	0.44
Egremont	8	10.75	1.34
Florida	0	0	0
Great Barrington	1	0.25	0.25
Hancock	0	0	0
Hinsdale	2	0.50	0.25
Lanesborough	13	11.75	0.90
Lee	3	2.25	0.75
Lenox	27	18.00	0.67
Monterey	0	0	0
Mount Washington	0	0	0
New Ashford	0	0	0
New Marlborough	2	1.25	0.63
North Adams	21	11.00	0.52
Otis	56	1,860.00	33.21
Peru	0	0	0
Pittsfield	198	106.75	0.54
Richmond	2	1.25	0.63
Sandisfield	0	0	0
Savoy	0	0	0
Sheffield	0	0	0
Stockbridge	3	0.75	0.25
Tyringham	0	0	0
*Washington**	*6*	*12*	*2*
West Stockbridge	0	0	0
Williamstown	13	11.50	0.88
Windsor	4	7.75	1.94
Total	**374**	**2,098.70**	**5.33**

Source: (MEMA, 2004)

**Note: Becket and Washington data from Feb. 2002-June 2004, and is provided by Becket Fire Dept.*

Conditions contributing to risk

All of our communities are considered by the state, based on historic occurrences, to be at low risk except for Pittsfield which is considered to be at medium risk, due to the number of fires that have occurred. This is most likely due to the urban/woodland interface and the population density at that

interface. The Berkshires are about 75% forested with northern hardwoods and mixed forest comprising 58% of the forest. Oak dominant or oak/maple/birch comprises another 24%. Conifer dominant forest comprises only about 6% of the forest. This conifer forest along with the suburban forest (7%) poses the greatest threat to wildfire (MassGIS, 2010). Scattered throughout the county are small plantations of various conifers which also pose a risk. These plantations are usually picked up in the conifer dominant but may also show up in the mixed forest.

Future occurrences

Fires within the Berkshire are highly dependent on moisture and underbrush. When the region is in a drought the chance of fires will increase. Also, much of the region is no longer harvested, leading to a buildup of brush. This can lead to an increase in wildfire risk, especially in times of drought. In addition, the ice storm of 2008 left a large amount of debris in the forest and therefore increasing the risk. The presence and increasing size of the urban/woodland interface will also continue to cause future wildfires and increase the potential for loss of life or property. Most of the fires that do occur in the Berkshires are small brush fires and seldom get into the trees or grow to more than an acre. Due to the forest types and being a water rich area, the risk for wildfires in the Berkshires is low.

Major Urban Fires

Urban fires are of minimal concern in the majority of the region due to the lack of an urbanized area. The cities of Pittsfield and North Adams and a few towns have a larger amount of developed land than the rest of the county, but the risk is mostly limited to single buildings and not larger areas.

Drought

Previous occurrences

The Berkshires have been affected by six multi-year droughts during the last 100 years covering 66 months, or 5.5% of the time. Massachusetts has experienced multi-year drought periods in 1879-83, 1908-12, 1929–32, 1939–44, 1961-69 and 1980–83. The Housatonic River watershed experienced a drought in 1985-88. (USGS, 1989)

The most severe drought on record in the Northeast was during 1961-69. Water supplies and agriculture were affected because of the severity and long duration of the drought. Precipitation was less than average beginning in 1960 in Western Massachusetts and beginning in 1962 in eastern Massachusetts. Stream flow had the greatest negative departure during 1965 in the western part of the state. During this drought several communities declared water supply emergencies. As a point of reference, Quabbin Reservoir, the major water source for the metropolitan Boston area, reached 45% of capacity in 1967.

Multi-year droughts are identified by analyzing annual and cumulative departures from long-term stream flow. On the basis of streamflow records, the 1980-83 drought was the least severe of the major Massachusetts droughts. In recent years droughts have not caused extreme hardships for the Berkshire region, but have tended to lead to restrictions on items such as lawn watering or car washing.

Table 19. Multi-year Droughts in Berkshire County

Date of Drought	Area Affected	Remarks pertaining to Western Mass.
1879-83	Unknown	-
1908-12	Unknown	-
1929-32	Multi-state	-
1939-44	Multi-state	More severe is Western and Eastern Mass.
1957-59	Statewide	-
1961-69	Multi-state	Record drought event
1980-83	Multi-state	-
1985-88	Housatonic River Watershed	Duration and severity still unknown
1998-99	Western Massachusetts	-

Source: (USGS, 1989) (NOAA, 2010)

Conditions contributing to risk

Massachusetts is often considered a "water-rich" state. Under normal conditions, regions across the state annually receive between 40 and 50 inches of precipitation. However, Massachusetts can experience extended periods of dry weather, from single season events to multi-year events.

Drought is a normal, recurrent feature of climate, although many erroneously consider it a rare and random event. It occurs in all climatic zones across the northeast, but each drought will affect sub-regions differently. Historically, most droughts in Massachusetts have started with dry winters, rather than dry summers. Droughts are most often associated with a deficiency of precipitation over an extended period of time, usually two winters or more.

Drought should be considered relative to some long-term average condition of balance between precipitation and evapotranspiration (i.e., evaporation + transpiration) in a particular area. It is also related to the timing and the effectiveness of the rains (i.e., rainfall intensity, number of rainfall events). Other climatic factors such as high temperature, high wind, and low relative humidity can significantly aggravate its severity.

The beginning of a drought is difficult to determine. Several weeks, months, or even years may pass before drought conditions become apparent. The first evidence of drought usually is seen in record low levels of rainfall, and the soil moisture becomes unusually low. The effects of a drought on streamflow and water levels in lakes and reservoirs may not be noticed for several weeks or months. Groundwater levels may not reflect drought conditions for a year or two later. The end of a drought can occur as gradually as it began. Dry periods can last for 10 years or more.

Future occurrences

Multi-year droughts will continue to occur in the region. It will require vigilance to ensure that sufficient water supplies are available for human consumption and for maintaining base streamflow to support

aquatic wildlife. Although the year-round population of the region is not notably increasing, the amount of land under development continues to increase. This reduces the amount of land under forest cover. To protect water supplies, local communities must carefully maintain and protect existing reservoirs and groundwater supplies, continue efforts to limit unnecessary water use through conservation measures, and control stormwater runoff. Limiting or prohibiting new stormwater discharges into municipal drainage systems and encouraging or requiring that stormwater be contained on-site for groundwater recharge will help to maintain streamflow in drought conditions.

Beaver Dams

Previous occurrences

Beavers are active throughout Berkshire County. MassWildlife estimates that the beaver population has almost tripled between 1996 and 2004, from an estimated 24,000 to 70,000 (MassWildlife, 2004)). The exponential growth has been attributed to several factors, including an increase in suitable habitat, an increase in wetland protection and a decrease in the hunting and trapping of the animals.

Beavers are a beneficial and integral part of the regional ecosystem. By damming brooks and other water flows beavers help to expand wetland areas, which provide important habitat and allows for increased infiltration and groundwater recharge. The very instinct which drives beavers to dam waterways and create water impoundments is the same instinct that drives beavers to clog culverts. Hazardous conditions are created when impounded water backs up onto developed properties, when roadways are flooded or washed out, and when dams that hold back large impoundments endanger properties downstream.

Damage to roadways is a serious and chronic problem across the region. Beavers plug culverts and create impoundments that back up and over roadbeds. Hazardous driving conditions are created when roadways are flooded. Damage to the roadbed occurs when moving water erodes or undermines the road, and when the soil supporting the roadbed becomes saturated with water and settles or shifts. Gravel roads erode or are washed out. The overall stability of paved roads decreases as the pavement becomes stressed and potholes are formed. Local highway departments in neighboring New York State spend approximately 19 workdays and $2,500 in repair costs annually for each beaver-obstructed culvert (Jensen & Curtis, 1999).

Some of the beaver dams across the county are as large as man-made dam, impounding sizable ponds and wetlands. Unlike man-made dams, the exact size of the dams and the impoundments, and the condition of these dams is largely unknown. The extent of damage that would be caused by failure or breaching of any of these dams is therefore also unknown.

Conditions contributing to Risk

In 1999 Cornell University studied beaver activity along road corridors. One focus of the study was to identify ecological factors that favor beaver activity. The study found that percent forest cover and stream morphology were determining factors for beavers. In general, beavers were more abundant along roadsides where woody vegetation (trees and shrubs) is present, where stream gradients were 2% or less, and where stream width is relatively narrow. (Jensen & Curtis, 1999)

Another focus of the study was to identify what types of culverts were most susceptible to being clogged by beavers. In general, arched or box culverts, which tend to retain the natural stream bed and width were less susceptible to clogging than round culverts, which tend to restrict and channel flow. The smaller the width, the more readily it can be clogged.

Future Occurrences

It is expected that beaver activity will continue to persist throughout the region, as the factors that have allowed them to expand their range (increase in suitable habitat, an increase in wetland protection and a decrease in the hunting and trapping) are expected to remain relatively constant over the next decade.

Extreme Temperature

Previous occurrences

Extreme temperatures have occurred throughout the county. Extreme heat, for this climatic region, is usually defined as a period of 3 or more consecutive days above 90 °F, but more generally a prolonged period of excessively hot weather, which may be accompanied by high humidity. Extreme cold, again, is relative to the normal climatic lows in a region. Temperatures that drop decidedly below normal and wind speeds that increase can cause harmful wind-chill factors. The wind chill is the apparent temperature felt on exposed skin due to the combination of air temperature and wind speed. Pittsfield, which has the main weather station in the county, has a record high of 95°F and a record low of -29°F. While no specific information was obtainable, Berkshire County tends to have about one heat wave a year. The county also tends to have two to three periods each winter of several days where the low is below zero.

Conditions contributing to Risk

Temperature extremes can occur throughout the entire county. Colder temperatures are more common in the higher elevations of the county, but the entire county is susceptible. Areas that are more prone to heat include inland urban areas which are found at the lower elevations in the valleys.

Future Occurrences

Extreme temperatures will continue throughout the entire county into the future. With global warming, the county should expect more extreme temperatures, both hot and cold.

Community Profiles

The Community Profiles, found on the following pages have been completely redone from the 2005 plan. Information from the communities that participated in the 2005 plan have been incorporated into this plan.

Town of Adams Natural Hazard Risk Assessment

Community Profile

The Town of Adams is located in northwestern Massachusetts, bordered by North Adams to the north, Cheshire to the south, Savoy and Florida on the east, and Williamstown and New Ashford to the west. The town is located in the valley of the South Branch of the Hoosic River. The town's economy was historically driven by industry. The power of the river was harnessed to allow the early development of industry. The industrial economy was initially driven by textile and paper mills and mining operations. The town's manufacturing base has declined dramatically over the last several decades, as has been typical of the entire Berkshire region. Though a fairly significant amount of manufacturing still occurs in Adams, the town appears to be transitioning to a service-based economy and is trying to capture a portion of the Berkshire tourism and recreation market. The Town is home to an abundance of significant natural, historical and recreational assets, such as Mount Greylock State Reservation, the Hoosic River, a number of historic sites and buildings, and the Ashuwillticook Rail Trail which extends southward almost to Pittsfield from downtown Adams. The town ranges in elevation from 3,491 ft at the top of Mount Greylock to 750ft at the northern edge of town where the Hoosic River crosses into North Adams (MassGIS, 2010).

The Town of Adams covers an area of 22.96 square miles and has a population of 8,485, giving a density of 370 people/square mile. The town has experienced a decline in population over the last few decades, with its highest population being in 1925 when there was a population of 13,525 and has been in a sharp decline since 1980 when the population was 10,381. Since 1980, the town has been losing close to 63 people per year (US Census Bureau).

There are 3,907 occupied housing units, resulting in a household size of 2.17 people per household (US Census Bureau). The predominant land uses in town are forests (70%), agricultural (11%), residential (9%) and mining (2%) (MassGIS, 2010). The town belongs to the Adams-Cheshire Regional School District. The elementary school (C.T. Plunkett) is in Adams, while the high school (Hoosac Valley) is in Cheshire. The town is also home to the Berkshire Arts & Technology Charter School.

Critical Facilities

A list of the critical facilities within the community is shown in Table 19. This data was taken from the communities CEMP. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 19. Critical Facilities - Adams

	Name	*Address*
Fire	Adams Forest Wardens	1 Warden Drive
	Adams Fire District	3 Columbia Street
Police	Adams Police Department	4 School Street
Health Services	Adams Internists	19 Depot Street
	Adams Police Department	4 School Street
	Adams Fire District	3 Columbia Street
	Adams Forest Wardens	1 Warden Drive
	Adams Ambulance	185 Columbia Street
Town Offices	Town Hall	8 Park Street
Emergency Operations Center	Adams Police Department	4 School Street
Alternate Emergency Operations Center	Forest Warden HQ	1 Warden Drive
Public Works	Adams DPW	8 Park Street
	Town Garage	92 North Summer Street
	Adams Waste Water Treatment Plant	273 Columbia Street
	Adams Water Department	3 Columbia Street
Schools	Adams Memorial Middle School	30 Columbia Street
	BART Charter School	1 Commercial Place
	CT Plunkett Elementary School	14 Commercial Street
	St. Stanislaus Kostka School	108 Summer Street
Shelters	Adams Memorial Middle School	30 Columbia Street
	St. Stanislaus Kostka School	108 Summer Street
	Adams Forest Wardens	1 Warden Drive
	CT Plunkett Elementary School	14 Commercial Street
Special Needs Facilities	Adams Memorial Middle School	30 Columbia Street
	CT Plunkett Elementary School	14 Commercial Street
	St. Stanislaus Kostka School	108 Summer Street
	Columbia Valley Housing Authority	4 Columbia Street

Flood Prone Areas

The town is bisected by the Hoosic River, which is contained in a flood chute for the developed area of downtown. The flood chutes were built in the early 1950's in response to flooding that occurred in 1938. There are several streams which flow into the Hoosic River, including Patton Brook, Reed Brook, Tophet Brook, Miller Brook, Southwick Brook, Cheesbro Brook, Hoxie Brook, Pecks Brook, Dry Brook and Fisk Brook.

The town has several areas that are prone to flooding:

The area around South Willow Street has eroded due to the Hoosic River. This area is not protected by flood chutes.

The Pine Brook / Upton Brook in the vicinity of Renfrew Park and Burt Street periodically cause flooding of the adjacent properties.

There is a drainage ditch located between Crotteau Street and North Summer Street which causes flooding between Sparrow Street and West Kittler Avenue.

There is a wastewater pumping station in the area around Lime Street. This area tends to be flooded as the drainage ditches that were there have been filled.

The water supply wells, which are located in Cheshire, are in jeopardy of being flooded by the Hoosic River.

Burlingame Road has washed out several times. Burlingame Road is a dirt road and improvements to the drainage system are needed.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 391 acres of 100-year floodplain within the town. This amounts to 2.66% of the total town. Based on additional analysis, 78 acres (19.96%) of the floodplain are developed (Berkshire Regional Planning Commission, 2010) (MassGIS, 2010). This leaves 313 acres that are potentially buildable under current zoning. The town does currently have a floodplain bylaw, protecting zones A and A1-30 as shown on the FIRM. Currently there are 14 commercial buildings (9%), seven industrial (10%) and 167 residential buildings (6.1%) within the floodplain (Table 20) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 21.

Table 20. Number of Buildings in Floodplain - Adams

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
167	6.0%	14	9.7%	7	9.9%	188	6.3%

Source: (Berkshire Regional Planning Commission, 2010)

Table 21. Loss Estimate for Properties within the 100-year floodplain ($000) – Adams

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$24,624,000	$12,312,000	$3,343,000	$3,343,000	$2,706,000	$3,383,000	$49,712,000

(Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 10 flood insurance claims in Adams since 1978, totaling $26,199 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). There are also no critical facilities in Adams that are within the 100 year floodplain.

Structurally Deficient Bridges and Bridges of Concern over Waterways

Adams does not have any bridges over water that are classified by MassDOT as "structurally deficient" (MassDOT, 2010). However, the town is concerned about the Burt Street bridge that crosses Upton Brook, due to a large amount of sediment reducing the amount of clearance. The Town is working with the Conservation Commission to slowly clear this out.

Hazard Potential of Dams

The DCR Office of Dam Safety lists 11 dams in the Town of Adams as shown in Table 22. One of these dams, Hall Brook Dam, has been removed since the database was obtained by BRPC. None of these dams are classified as high hazard. One dam, Fisk Brook Dam, is considered unsafe; however three dams are considered in poor condition, Peck's Brook Dam, Anthony Dam and Town Infirmary Dam (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of moderate risk for dam failure.

Table 22. Dams - Adams

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Anthony Dam	Low	Small	Poor		Hoxie Brook near West Road
Arnold Dam	Significant	Intermediate			Deans Brook near West Road
Fisk Brook Dam	Significant	Intermediate	Unsafe		Fisk Brook near Fisk Street
Greylock Greenhouse Dam	Significant	Small	Fair		Tributary of Pecks Brook near West Mountain Road
Hall Brook Dam				Removed	
Peck's Brook Dam	Low	Small	Poor	Non-Jurisdictional	Peck's Brook near West Mountain Road
Plunkett Dam	Low	Small		Breached	

Renfrew Dam				Removed	
Former Town Infirmary Dam	Low	Small	Poor	Non-Jurisdictional	Tributary of Cheesboro Brook near East Road

(Office of Dam Safety, 2004)

Landslides

The town believes it is more susceptible to landslides than other communities due to its terrain and soils. The town is concerned about a potential landslide around Walling Road and East Road which could impact local residents. The Mount Greylock Reservation is also susceptible to landslides and has experienced them, but generally these do not impact infrastructure or property.

Wildfires

As with most Berkshire Communities, the town is at a moderate risk to wildfires due to the type of forests and climate of the region. However, the town has determined that the Greylock Glen area around Gould Road and West Mountain Road is at a higher risk of wildfire then the rest of the town. Also, areas above 1000 feet in elevation on the east and west side of town is at a higher risk due to the 2008 ice storm which caused an damage to the forests, increasing the available fuel.

Winter Storms

The entire town is susceptible to severe winter storms, however elevations above 1000 ft on both sides of town, including the streets of East Hoosac Street, East Mountain Road, Burlingame Hill Road, Orchard Street, West Mountain Road and Gould Road tend to get more snow than the remaining portion of town.

Other Natural Hazards

Other than the above mentioned hazards, the Town of Adams does not have any locations in town that are more susceptible to natural hazard events such as earthquakes, tornado's, ice jams and others as they can occur anywhere in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Adams, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, wildfire (due to Dec. 2008 ice storm debris damage), tornados, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for landslide, earthquakes and ice jams.

Town of Becket Natural Hazard Risk Assessment

Community Profile

The Town of Becket is bordered to the east by Chester and Blandford in Hampden County and Middlefield in Hampshire County, to the north by the town of Washington, west by Lee and Tyringham and to the south by the town of Otis in Berkshire county. The town is considered a Berkshire "hilltown," located within the Berkshire Hills of eastern Berkshire County. The terrain consists primarily of rugged hillside and narrow valleys. The hills generally run from a north-northwest to a south-southeast direction, with elevations ranging from 2,200 feet (Walling Mountain) to 800 feet (northeast corner near Middlefield) (MassGIS, 2010).

The town covers an area of 47.77 square miles. The town's population is 1,779, giving a density of 37 people/square mile. The town has experienced a growth in population over the last few decades, currently experiencing its highest population. Since 1980, the town has been gaining close to 15 people per year (US Census Bureau).

There are 763 year round housing units, with a household size of 2.3 people per household. Becket has a significant seasonal population, with 890 seasonal housing units in 2010. This amounts to 51.5% of the entire housing stock (US Census Bureau). The predominant land uses in town are forests (87.3%), water (3.8%), and residential (2.9 %) (MassGIS, 2010). The town belongs to the Central Berkshire Regional School District. The elementary school (Becket Washington) is in Becket, while the middle and high schools (Nessacus and Wahconah) are in Dalton.

Critical Facilities

A list of the critical facilities within the community is shown in Table 23. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Becket has an extensive list of special needs populations during the summer months, due to the six overnight summer camps and campground located within the town. Although the number of campers varies each year, it is estimated that 2,750 people, including children, camp counselors and staff, and campground visitors are in Becket during the summer months.

Table 23. Critical Facilities - Becket

	Name	***Address***
Fire Stations	Fire Station # 1	108 Washington Street
	Fire Station # 2	629 Jacob's Ladder Road
Police	Police Department	557 Main Street
Health Services	Becket Ambulance Depot	629 Jacob's Ladder Road
Town Offices	Town Hall	557 Main Street
Emergency Operation Center	Becket Town Hall	557 Main Street
Alternate Emergency Operation Center	Becket Fire Station # 1	108 Washington Street
	Becket Fire Station # 2	629 Jacob's Ladder Road
Town Garage	Department of Public Works	47 Lyman Street

State Highway Garage	Mass Highway	Main Street
Schools	Becket/Washington School	12 Maple Street
Shelters	Becket/Washington School	12 Maple Street
	Fire Station # 2	629 Jacob's Ladder Road
	Camp Chimney Corners	748 Hamilton Road
Special Need Facilities	Becket/Washington School	12 Maple Street
	Camp Watitoh	Center Lake
	Camp Greylock	1525 Main Street
	Camp Becket	748 Hamilton Road
	Camp Chimney Corners	748 Hamilton Road
	Camp Lenox	748 Hamilton Road
	Bonny Rigg Campground	Jacob's Ladder Road
Camps	Camp Watitoh	Center Lake
	Camp Greylock	1525 Main Street
	Camp Becket	748 Hamilton Road
	Camp Chimney Corners	748 Hamilton Road
	Camp Lenox	748 Hamilton Road

Flood Prone Areas

Becket is a hilltown, with mountain ridges generally running in a north-northwest to south-southeast direction. The many streams that traverse the town are headwaters for three major watersheds in the region: the Housatonic River to the west and south of town, the Westfield River to the east, and the Farmington River to the southeast. Streams are generally swift-flowing through narrow channels, often traveling through steep ravines. The streams within the town are primarily mountain brooks of low order; few streams within the town reach fourth order magnitude. The streams are characterized by relatively small flows, but the flows can become flashy with heavy, short bursts of rain. Some of the more prominent streams include Shaker Mill Brook, Yokum Brook, Center Pond Brook, Tyne Brook, Palmer Brook, Sparks Brook, Cushman Brook, Hamilton Brook, Walker Brook and Mountain Pasture Brook. The northeast boundary of the town is formed by the West Branch of the Westfield River.

Becket has an abundance of lakes and ponds throughout the town. Some of the major water bodies include Greenwater Pond, Upper Goose Pond, Shaw Pond, Palmer Brook Pond, Buckley Dunton Lake, Yukum Pond, Rudd Pond, Center Pond, Robin Hood Lake and Indian Lake. Much of the seasonal housing exists around these lakes.

The Becket road system is vulnerable to flooding and potential washouts from a variety of factors, including potential dam failures, beaver activities and heavy snowmelt and rain events. The Becket DPW does not maintain all the roadways within the town. Route 8, Route 20 and the Massachusetts Turnpike are maintained by MassDOT and roads within some of the planned subdivision communities are maintained by homeowner associations. Many of the roads throughout the town do not have adequate drainage systems to deal with heavy rains, especially the dirt roads.

Bancroft Road: There is a beaver problem along Bancroft Road north of Hopkins Lane. There is beaver control in place, which has helped reduce this problem.

Bonny Rigg Hill Road: There is a beaver problem on Sparks Brook, immediately east of the road. There is a beaver control device in place limiting the flooding.

Benton Hill Road: Another beaver pond of concern is located on the outlet stream below Center Pond. If the dam at this pond failed, Benton Hill Road would be flooded, and perhaps washed out completely, as the culvert below the road is not sized to handle the amount of water that is impounded behind the beaver dam.

Chester Road (Route 20): There are four water bodies that are hydrologically connected within the forest, and they all drain out of the west branch of Walker Brook. The brook flows under Bonny Rigg Hill Road through two culverts: one old stone box culvert and one newer pipe culvert. If the Robin Hood Lake dam were to fail, or if there were a heavy rain event, the two culverts would most likely not be able to handle the flows. The replacement of the culverts is included in a road project and listed on the county's Transportation Improvement Program (TIP), but it is unknown when the project will actually be constructed.

County Road: There is localized flooding along County Road due to beaver activity.

High Street: a house at the bottom of the hill is routinely flooded due to storm runoff from the streets.

Main Street: the stream adjacent to Ballou Park is eroding the bank and the concrete blocks supporting it are falling into the stream.

Massachusetts Turnpike: There is a beaver problem east of Johnson Road. There is a beaver control in this area, but flooding onto the Mass Turnpike has still occurred. Seven years ago the beaver dam appeared to be failing, and debris clogged the culvert under the road. Heavy water flows were undermining the footings for the guardrails and threatened to undermine the turnpike itself. Emergency work shored up the eroded areas and rip rap was installed. A beaver device to allow constant flow was installed at the site, but the dam continues to be a threat.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 2,622.8 acres of 100-year floodplain within the town. This amounts to 8.6% of the total town. Based on additional analysis, 43.4 acres (1.7%) of the floodplain are developed. This leaves 2579.4 acres that are potentially developable under current zoning (MassGIS, 2010). The town does currently have a floodplain bylaw. Currently there are 7 commercial buildings (38.9%), 1 industrial (33.3%) and 100 residential buildings (5.7%) within the floodplain (Table 24) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 25.

Table 24. Number of Buildings in Floodplain - Becket

Buildings in Floodplain							
Residential		Commercial	No.	Industrial	No.	Total	
No.	Percent	Percent		Percent		No.	Percent
100	5.7%	7	38.9%	1	33.3%	108	6.1%

Source: (Berkshire Regional Planning Commission, 2010)

Table 25. Loss Estimate for Properties within the 100-year Floodplain ($000) - Becket

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$29,464	$14,732	$7,355	$7,355	$399	$498	$59,802

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 6 flood insurance claims in Becket since 1978, totaling $41,115 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). The DPW building, located in North Becket Village, is the only municipal critical facility located within the floodplain.

Structurally Deficient Bridges over Waterways

Becket has one bridge over water that is classified by MassDOT as "structurally deficient". This bridge is on Quarry Road as it crosses Cushman Brook, but is not considered to be in the floodplain (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists 18 dams in the Town of Becket as shown in Table 26. Three (3) of these dams are of high hazard. All three of these three dams are considered in good or fair condition. Of all the dams in town, Center Pond Dam is considered in poor condition and Yokum Pond Dam is considered to be in fair to poor condition (Office of Dam Safety, 2004). Becket is no stranger to dam failure. In 1927 an impoundment below Rudd Pond collapsed and floodwaters swept through North Becket Village. Within 25 minutes the flood had killed one person and destroyed several homes, four factories and the post office. The damage was estimated in 1927 to be $1.5 million. The factories were never rebuilt and North Becket Village, which was the commercial hub of the town, was permanently changed. With this event in mind, Becket officials remain vigilant and concerned about the condition of the dams within the town, most notably at Rudd Pond and Buckely-Dunton Lake. Given these dams, the town considers itself to be of moderate risk for dam failure.

Table 26. Dams - Becket

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Ballou Dam				Removed	
Becket Silk Mill Dam				Non-Jurisdictional	Along Route 8 on Yokum Brook
Buckley-Dunton Lake Dam	High	Large	Good	Rebuilt	Nuckley-Dunton Lake off of Yokum Pond Road
Center Pond Dam	Significant	Large	Poor		Center Pond off of Manning Road and Route 8
Chimney Corners Pond Dam	Significant	Intermediate	Fair		Hamilton Brook off of Hamilton Road
Golden Fleece Dam	Low	Small	Unknown		West Branch of the Westfield River between Bancroft Road and Surriner Road
Greenwater Pond Dam	Significant	Large	Fair		Greenwater Pond off of Jacobs Ladder Road
Higley Brook Dam	Low	Intermediate	Unknown		Upper Goose Pond and Loose Tooth Road
Indian Lake Dam	High	Intermediate	Good		Indian Lake off of Bonny Rigg Hill Road and Seneca Drive
Little Robin Hood Lake	Significant	Intermediate	Fair		Little Robin Hood Lake off of King Richard Drive
Longbow Lake Dam	Low	Small	Unknown		Longbow Lake and Shuttle Cock Drive
Murry Pond Dam	Significant	Intermediate	Fair		Crystal Pond and Big Bass Lane
Palmer Brook Dam	High	Large	Good		Palmer Brook Pond off of Woodmere Rd
Robin Hood Lake Dam	Significant	Intermediate	Fair		Robin Hood Lake off of Sherwood Drive
Rudd Pond North Dam	Low	Intermediate	Unknown	Repaired/ Maintained	Rudd Pond off of Lane Road
Tomoka Dam	Low			Non-Jurisdictional	Pill Pond off of Carter Road
Upper Reservoir Dam				Breached	West Branch of the Westfield River between Bancroft Road and Surriner Road
Yokum Pond Dam	Significant	Intermediate	Fair / Poor		Yokum Pond off of Leonhardt Road

Source: (Office of Dam Safety, 2004)

Winter Storms

The entire town is susceptible to severe winter storms, however, the higher in elevation one goes, the greater the chance of high snowfall.

Other Natural Hazards

Other than flooding and winter storms, the Town of Becket does not have any locations in town that are more susceptible to natural hazard events. Wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Becket, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from tornados, hurricane and tropical storms, extreme temperatures, dam failure and wildfire; and **low risk** for drought, landslide, earthquakes and ice jams.

Town of Dalton Natural Hazard Risk Assessment

Community Profile

The Town of Dalton covers an area of 21.87 square miles. The town's population is 6,756, giving a density of approximately 309 people/square mile. The town has been losing population since 1970 when it reached it high of 7,505. There are 2,737 housing units, resulting in a household size of 2.5 people/household (US Census Bureau). The predominant land uses in town are forest (78%), residential (9%), agricultural (3%) and commercial/industrial (1.5%) (MassGIS, 2010). The town belongs to the Central Berkshire Regional School District. The elementary school (Craneville) is in Dalton as well as the middle school (Nessacus) and high school (Wahconah.)

Critical Facilities

A list of the critical facilities within the community is shown in table 27. This data was taken from the communities CEMP. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 27. Critical Facilities - Dalton

Type	Name	Address
Fire	Dalton Fire Station	20 Flansburg Avenue
Police	Police Department	462 Main Street
Health Services	Dalton Ambulance/Fire	20 Flansburg Avenue
	Craneville Place of Dalton	265 Main Street
	Dalton Fire Station	20 Flansburg Avenue
	Dalton Medical Center	33 North Street
Town Hall	Town Hall	462 Main Street
Emergency Operations Center	Dalton Police Station	462 Main Street
Alternate Emergency Operations Center	Dalton Fire Department	20 Flansburg Drive
Public Works	Department of Public Works	40 Gulf Road
	Dalton Water Dist.	59 Old Windsor Road
Schools	Craneville Elementary School	71 Park Avenue
	St. Agnes Elementary School	30 Carson Avenue
	Wahconah Regional High School	150 Old Windsor Road
	Nessacus Middle School	35 Fox Road
Shelters	Wahconah Regional High School	150 Old Windsor Road
	Nessacus Middle School	35 Fox Road
	Craneville Elementary School	71 Park Avenue
	St. Agnes Elementary School	30 Carson Avenue
	Dalton Community House	400 Main Street
	Dalton Senior Center	40 Field Street Extension
	American Legion #155	258 North Street
	Wahconah Country Club	20 Orchard Road
	Pioneer Mill, Crane Paper Co.	60 Pioneer Street
	Berkshire Mill, Crane Paper Co.	130 Housatonic Street
	Byron Weston Mill, Building #19	800 Main Street
	Byron Weston Mill, Building #6	800 Main Street

	Bay State Mill	Rte. 9
Special Needs Facilities	Craneville Place of Dalton	265 Main Street
	Curtis Manor	83 Curtis Avenue
	River Run Apartments	600 Main Street
	Pine Grove Manor Housing	293 High Street
	Pomeroy Manor Housing	38 East Street
	Bear Care Preschool	1080 South Street
	Dalton Community House	400 Main Street
	Wahconah Regional High School	150 Old Windsor Road
	Nessacus Middle School	35 Fox Road
	Craneville Elementary School	71 Park Avenue
	St. Agnes Elementary School	30 Carson Avenue

Flood Prone Areas

The town is bisected by the East Branch of the Housatonic River. Center Pond is on the East Branch and is the result of a dam owned by Crane & Company. There are also several small ponds in town, including Egypt Reservoir and Little Egypt Reservoir, which are backup water supplies for the town, Duncan Brook Pool, Gore Pond and Anthony Pond. There are several streams in town that eventually lead to the Housatonic River, including Anthony Brook, Egypt Brook, Duncan Brook, Wahconah Falls Brook, Cleveland Brook, Walker Brook, Barton Brook, Brattle Brook, Sackett Brook and Hathaway Brook.

Orchard Road will flood on occasion where it crosses Center Pond/East Branch of the Housatonic River.

Walker Brook, which flows into the East Branch of the Housatonic River also has flooding problems. Walker Brook goes underground at High Street and travels underground until shortly before the confluence with the Housatonic. The High Street area where Walker Brook goes underground periodically floods due to an undersized pipe. The flooding will cross High Street and occasionally flood Field Street.

Kirchner Road will flood on occasion where it crosses Sackett Brook.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 464.4 acres of 100-year floodplain within the town. This amounts to 3.3% of the total town. Based on additional analysis, 57.6 acres (12.4%) of the floodplain are developed. This leaves 406.8 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30 as shown on the FIRM. Currently there are 4 commercial buildings (6.0%), 5 industrial (12.8%) and 73 residential buildings (3.2%) within the floodplain (Table 28) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 29.

Table 28. Number of Buildings in Floodplain - Dalton

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
73	3.2%	4	6.0%	5	12.8%	82	3.4%

Source: (Berkshire Regional Planning Commission, 2010)

Table 29. Loss Estimate for Properties within the 100-year Floodplain ($000) - Dalton

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$16,454	$8,227	$1,588	$1,588	$7,147	$8,934	$43,939

Source: (Berkshire Regional Planning Commission, 2010)

The town has had 10 flood insurance claims since 1978 for a total of $41,501 (MEMA, 2010). This includes two repetitive flood loss properties, which have filed 7 claims for $32,717.61 (MEMA, 2009). Dalton does not contain any critical facilities that are currently within the floodplain.

Structurally Deficient Bridges over Waterways

Dalton has one bridge that is structurally deficient that is located in a floodplain. This bridge is on Cleveland Road and crosses Wahconah Falls Brook and has had funding allocated to fix it in 2012 (MassDOT, 2010).

Hazard Potential of Dams

There are ten (10) dams in Dalton as shown in table 30. One of these dams in Dalton is classified as a high hazard, Egypt Reservoir Dam, however it is considered to be in good condition. According to the dam database from DCR Office of Dam Safety, two dams, Hathaway District Dam and Sackett District Dam, are considered in poor condition. Hathaway District Dam has since been removed and Sackett District Dam is considered non-jurisdictional due to its small size (Office of Dam Safety, 2004).

While the size and condition of the dams in town lead the town to consider itself to be at low risk, dams outside of town cause concern. Cleveland Reservoir, which is the main drinking water supply for the City of Pittsfield is located in the Town of Hinsdale. Cleveland Reservoir is considered a high hazard dam and is in fair condition. If this dam should fail, Dalton would be significantly impacted by the inundation with significant damage to a large portion of the developed area in town. This leads Dalton to consider itself to be at a moderate risk for dam failure.

Table 30. Dams - Dalton

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Ashley Reservoir (New Lower)	Low	Intermediate	Good		Ashley Reservoir off of Washington Mountain Road
Bay State Pond Dam	Low		Fair	Non-Jurisdictional	East Branch of Housatonic River off of Old South Street
Byron Weston Dam #1	Significant	Intermediate	Fair		East Branch of Housatonic River off of Main Street
Byron Weston Dam #2	Significant	Unknown	Fair		East Branch of Housatonic River off of Centennial Ave
Dalton Water Supply Dam #1	Low	Small	Unknown		Water Supply off of Holiday Cottage Road
Egypt Reservoir	High	Intermediate	Good		Egypt Reservoir off of Reservoir Road
Hathaway District Dam	Low			Removed	
Old Berkshire Mill Dam	Significant			Breached	
Pioneer Pond Dam	Low	Small	Fair		East Branch of Housatonic River off of Housatonic River
Sackett District Dam	Low		Poor	Non-Jurisdictional	Sackett Brook off of Kirchner Road

Source: (Office of Dam Safety, 2004)

Wildfires

The town considers itself to be at a low risk to wildfires due to type of forests as well as its climate. However, the area around the Appalachian Trail, in the vicinity of Grange Hall Road and the vicinity of Gulf Road to Anthony Pond, are at a higher risk.

High Winds and Winter Storms

The entire town considers itself to be at a high risk to high winds and winter storms, however the areas around Grange Hall Road, Kirchner Road and Washington Mountain Road appear to be at a higher risk than the rest of the town.

Other Natural Hazards

Other than the above mentioned hazards, the Town of Dalton does not have any locations in town that are more susceptible to natural hazard events. Tornado's, landslides and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Dalton, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms), severe storms (thunderstorm, wind, hail, lightning) and tornados; **moderate risk** from dam failure, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of Egremont Natural Hazard Risk Assessment

Community Profile

The Town of Egremont is located in the southwestern corner of Massachusetts. It is bordered by Alford in the north; Great Barrington on the northeast; Sheffield on the southeast and Mt. Washington on the south. New York forms the western border. The town is split into two sections by Baldwin Hill and they are commonly known as North Egremont and South Egremont.

Egremont is endowed with a wide array of natural lands in forest cover, green pastures, open vistas from high hills, craggy mountains, lakes, streams, ponds and rivers. The dome of Mount Everett has an elevation of 2,624 feet is one of the highest mountains in the Berkshires and is a scenic landmark. Jug End State Reservation encompasses another large mountain region and forms a portion of the Town's line between it and Mount Washington.

The Town of Egremont covers an area of 18.88 square miles. The town's population is 1,225, giving a density of 65 people/square mile. The town has experienced a decline in population over the last decade, after several decades of growth (US Census Bureau).

There are 563 occupied housing units, resulting in a household size of 2.2 people per household. Egremont has 325 (35.3%) seasonal housing units (US Census Bureau). The predominant land uses in town are forests (68.1 %), agriculture (15.7%) and residential (7.2%) (MassGIS, 2010). The town belongs to the Southern Berkshire Regional School District. The elementary school (South Egremont K-1) is in Egremont, while Undermountain Elementary School (K-6) and Mount Everett High School (7-12) are in Sheffield.

Critical Facilities

A list of the critical facilities within the community is shown in table 31. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 31. Critical Facilities - Egremont

	Name	***Address***
Fire	Fire Station # 1	175 Egremont Plain Road
	Fire Station # 2	36 Main Street
Police	Police Department	Rte 71 N
Health Services	Fire Station # 1	175 Egremont Plain Road
	Fire Station # 2	36 Main Street
Town Offices	Town Hall	Rte 71
Emergency Operations Center	Town Hall	Rte 71
Alternate Emergency Operations Center	Fire Station # 1	175 Egremont Plain Road
	Fire Station # 2	36 Main Street
Public Works	Water Filtration Plant	135 Mount Washington Road
	Town Garage	Route 71
Schools	South Egremont Elementary School	42 Main Street, Rte 23
Shelters	Fire Station #2	36 Main Street

	First Congregational Church	50 Main Street
	Fire Station # 1	175 Egremont Plain Road
	South Egremont Elementary School	42 Main Street, Rte 23
	Town Hall	Route 71
Special Needs Facilities	South Egremont Elementary School	42 Main Street, Rte 23
	Kinderhof	76 Boice Road
	Prospect Lake Park Campground	50 Prospect Lake Road
	CampHill Village	Jug End Road

Flood Prone Areas

Egremont has several water bodies in town, including Prospect Lake, Mill Pond and Marsh Pond. In addition the town has a portion of the Green River running through it, which is fed by the tributaries of the Hubbard Brook, Karner Brook, and Fenton Brook.

The town has several areas of concern for flooding:

Both Boice Road and Rowe Road have flooding issues where the Green River crosses. The removal of trees and debris has helped, but flooding is still a concern.

The bridge on Locust Hill Road in Great Barrington is a concern as the Green River backs up into Egremont. The bridge was raised which has helped to prevent flooding, but could be a concern in the future.

There is a stream crossing on Jug End Road that is a concern. The culvert is undersized and can easily back up. The downhill side of the road is a residential development and is affected by this storm-water run-off.

The stream crossing of Karner Brook and Sheffield Road is a concern. There is flooding in this area every 3-4 years. While little water crosses the road, there are numerous buildings that are impacted by the flooding. Several septic systems have been raised and the dam upstream is being replaced.

The parking lot at Town Hall is affected by flooding during stormwater events. All the run-off from the surrounding hillsides and buildings drain onto the parking lot, which is the low point in the area.

A stream crossing on Mount Washington Road floods periodically during storms. The water usually remains on the road for a day or two.

The intersection of Mount Washington Road and Jud End Road periodically floods due to Karner Brook.

The brook that crosses Shun Toll Road west of Route 71 periodically floods and washes out the road due to an undersized culvert.

The hydraulics of the area around Taconic Lane is not well understood. It appears that there are small historic walls holding back water and acting as defacto dams. The implications of these walls are not well understood.

There is a logging operation in Alford just north of town along Route 71 that the town is concerned about impacting the river in town and potentially causing flooding.

There are several areas that are impacted by beaver dams that cause periodic flooding. These areas include the areas around Marsh Pond, Jug End Road and Mill Pond.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 887.0 acres of 100-year floodplain within the town. This amounts to 7.3% of the total town. Based on additional analysis, 43.1 acres (4.9%) of the floodplain are developed. This leaves 843.9 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30 as shown on the FIRM. Currently there are 6 commercial buildings (40.0%), 0 industrial (0%) and 34 residential buildings (4.7%) within the floodplain (Table 32) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 33.

Table 32. Number of Buildings in Floodplain - Egremont

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
37	4.7%	6	33.3%	0	0.0%	43	5.3%

Source: (Berkshire Regional Planning Commission, 2010)

Table 33. Loss Estimate for Properties within the 100-year Floodplain ($000) - Egremont

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$19,478	$9,739	$6,702	$6,702	$0	$0	$42,622

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 6 flood insurance claims in Egremont since 1978, totaling $14,312 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). Egremont does not have any critical facilities within the 100-year floodplain.

Structurally Deficient Bridges over Waterways

Egremont does not have any bridges over water that are classified by MassDOT as “structurally deficient” (MassDOT, 2010). Currently Mass DOT is rebuilding the Mill Pond Bridge.

Hazard Potential of Dams

The DCR Office of Dam Safety lists three (3) dams in the Town of Egremont as shown in Table 34. None of these dams are classified as high hazard. Prospect Lake Dam is considered in poor condition, and is classified as a significant hazard (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low risk overall for dam failure.

Table 34. Dams - Egremont

Name	Hazard Code	Size Class	Inspection Condition	Location
Mill Pond Dam	Significant	Intermediate	Fair	Mill Pond off of Undermountain Road
Prospect Lake Dam	Significant	Intermediate	Poor	Prospect Lake off of Mill Road
Swimming Hole Dam	Low	Unknown	Fair	Karner Brook off of Main Street

Source: (Office of Dam Safety, 2004)

Other Natural Hazards

Other than flooding, the Town of Egremont does not have any locations in town that are more susceptible to natural hazard events. Winter storms, wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Egremont, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and hurricane and tropical storms; **moderate risk** from dam failure, severe storms (thunderstorm, wind, hail, lightning), tornados, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of Great Barrington Natural Hazard Risk Assessment

Community Profile

The Town of Great Barrington covers an area of 45.75 square miles. The town's population is 7,104, giving a density of 155 people/square mile. The town has experienced a decline in population over the last few decades. The town has lost about 410 people since 2000 and about 740 since 1990 when it was at its highest population of 7,841 (US Census Bureau).

There are 2,879 occupied housing units, resulting in a household size of 2.5 people per household (US Census Bureau). The predominant land uses in town are forests (72.8%), agriculture (10.1%), residential (6.4 %) and commercial/industrial (1.1 %) (MassGIS, 2010). The town belongs to the Berkshire Hills Regional School District. The elementary school (Muddy Brook), Middle (Monument Valley) and High (Monument Mountain) schools are all in Great Barrington.

Critical Facilities

A list of the critical facilities within the community is shown in Table 35. This data was taken from the community's CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 35. Critical Facilities - Great Barrington

	Name	***Address***
Fire	Fire Station	37 State Road
	Housatonic Station	172 Front Street
Police	Police Department	465 Main Street
Health Services	Southern Berkshire Ambulance	31 Lewis Avenue
	Fairview Commons	151 Christian Hill Road
	Great Barrington Rehabilitation & Nursing Center	148 Maple Avenue
	Timberlyn Heights Nursing Home	320 Maple Avenue
	East Mountain Medical Association	780 Main Street Rte 7
	Fire Station	20 Castle Street
	Housatonic Fire Department	Front Street
	Great Barrington Police Department	465 Main Street
	Fairview Hospital	29 Lewis Avenue
Town Offices	Town Hall	334 Main Street
Emergency Operations Center	Great Barrington Police Department	465 Main Street
Alternate Emergency Operations Center	Housatonic Fire Department	172 Front Street
Public Utilities	Waste Water Treatment Plant	10 Bentley Avenue
	Water Treatment Plant	Maple Ave
	Housatonic Water Co.	80 Maple Street
Schools	Monument Mountain Regional High School	Rte 7 600 Stockbridge Road
	Searles Middle School	79 Bridge Street
	W.C. Bryant School	16 School Street

	Eagleton School, Inc.	446 Monterey Road
	Rudolf Steiner School	35 West Plain Road
	John Dewey Academy	389 Main Street
	Monument Valley Middle School	Rte 7 600 Stockbridge Road
	Muddy Brook Elementary School	Rte 7 600 Stockbridge Road
	Kolburne School	South Main Street
	Simon's Rock College	84 Alford Road
	Berkshire Community College	343 Main Street
Shelters	Rising Mill Bldg. #4	4 Park Street
	Monument Mountain Regional High School	Rte 7 600 Stockbridge Road
	Housatonic Community Center	Main Street
	VAHC Eisner Camp	53 Brookside Road
	Fairview Hospital	29 Lewis Avenue
	Fox River Paper	295 Park Street
Special Needs Facilities	Monument Mountain Regional High School	600 Stockbridge Road, Rte 7
	Searles Middle School	79 Bridge Street
	Berkshire Meadows	249 North Plain Road
	Great Barrington Rehabilitation & Nursing Center	148 Maple Avenue
	Timberlyn Heights Nursing & Alzheimer Center	320 Maple Avenue
	Brookside Manor	909 Main Street
	Great Barringtion Senior Center	909 Main Street
	W.C. Bryant School	16 School Street
	Fairview Commons	151 Christian Hill Road
	Fairview Hospital	29 Lewis Avenue
	Life Needs Co-op Inc.	202 North Plain Road
	Bostwick Gardens	899 Main Street
	Oakdale Foundation	14 Oak Street
	Berkshire County Association of Retarded Children	343 Main Street
	Eagleton School, Inc.	446 Monterey Road
	Hillcrest Educational Center	5 Ramsdell Road
	Simon's Rock College	84 Alford Road
	Berkshire Community College	343 Main Street
	Rudolf Steiner School	35 West Plain Road
	John Dewey Academy	389 Main Street
	VAHC Eisner Camp	53 Brookside Road
	Great Barrington Cooperative Nursery School	251 Main Street
	Beech Tree Commons	24 Silver Street
	Flag Rock Village	27 Bernard Gibbons Drive
	Southern Berkshire Community Center	Crissey Road
	Monument Valley Middle School	Rte 7 600 Stockbridge Road
	Muddy Brook Elementary School	Rte 7 600 Stockbridge Road
	Kolburne School	South Main Street

Flood Prone Areas

The Housatonic River transects the town, in essence cutting it in half. There are several streams that feed into the Housatonic, including the Williams River, Green River, Long Pond Brook, Alford Brook, Seekonk Brook which are all on the west side of the Housatonic. On the east side, Konkapot Brook flows north into Stockbridge before it enters the Housatonic and includes the tributaries Stony Brook and Muddy Brook. The Thomas and Palmer Brook goes underground shortly before entering the Housatonic and the Roaring Brook enters Sheffield before it enters the Housatonic. The town also has several lakes and ponds, including Round Pond, Long Pond, Lake Mansfield, Fountain Pond, Benedict Pond, Barbieri Pond and Root Pond.

The town has several areas of concern when it comes to flooding:

Lake Mansfield Road acts as a dam for Lake Mansfield. If the road fails, Lake Mansfield could partially drain and cause flooding downstream.

The Green River crosses under Seekonk Road and periodically experiences problems. The road will occasionally wash out and cause some localized flooding. This area also periodically floods due to ice jams, as was the case during the December 2008 ice storm.

Round Hill Road crosses a small stream and has periodically had problems, including the ice storm in December 2008. The stream bed is steep and can easily back up if the crossing is obstructed.

Just off of Main Street, around the Cumberland Farms store, there is a small drainage pond. This pond periodically floods in the winter and impacts the local businesses as the water often reaches Main Street.

The town has found that there are several stormwater outlets that cross under mill buildings. These buildings periodically have basement flooding. The town has conducted a stormwater master plan for the Housatonic Village area and the Castle Hill drainage area which has identified the problem areas.

The bridge on Locust Hill Road is a concern as the Green River backs up into Egremont. The bridge was raised which has helped to prevent flooding, but could be a concern in the future.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 3,095.4 acres of 100-year floodplain within the town. This amounts to 10.6% of the total town. Based on additional analysis, 94.1 acres (3.0%) of the floodplain are developed. This leaves 3,001.3 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30 as shown on the FIRM. Currently there are 18 commercial buildings (7.0%), 11 industrial (24.4%) and 60 residential buildings (2.4%) within the floodplain (Table 36) (MassGIS, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 37.

Table 36. Number of Buildings in Floodplain – Great Barrington

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
60	2.3%	18	6.5%	11	24.4%	89	3.1%

Source: (Berkshire Regional Planning Commission, 2010)

Table 37. Loss Estimate for Properties within the 100-year Floodplain ($000) - Great Barrington

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$27,005	$13,503	$15,381	$15,381	$3,067	$3,834	$78,172

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 43 flood insurance claims in Great Barrington since 1978, totaling $188,843 (MEMA, 2010). There are 3 repetitive flood loss properties within the town who have filed a total of 9 claims totaling $80,542.95 (MEMA, 2009).

There are no critical facilities within the floodplain. However, while the wastewater treatment plant is not technically in the floodplain, it has the potential for flooding as it abuts the floodplain on three sides. The plant has seen high water in recent years and has experienced some flooding.

Structurally Deficient Bridges over Waterways

Great Barrington does not have any bridges over water that are classified by MassDOT as “structurally deficient” (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists 18 dams in the Town of Great Barrington as shown in Table 38. None of these dams are considered to be a high hazard risk. Three (3) dams are of classified as poor to unsafe condition. These three dams are Round Pond Dam, Benedict Pond Dam and East Mountain Reservoir Dam. Round Pond Dam and Benedict Pond Dam are low in hazard, but East Mountain Reservoir is considered a significant hazard (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low risk for dam failure.

Table 38. Dams - Great Barrington

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Barbieri Dam	Low	Intermediate	Unknown		Barbieri Pond off of Monument Valley Road
Beinecki Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Stony Brook off of Stony Brook Road
Benedict Pond Dam	Low	Intermediate	Good		Benedict Pond off of Beartown Road
Berle Pond Dam	Low	Small	Unknown		Muddy Brook off of Monument Valley Road
Brookside Lower Pond Dam	Unknown	Unknown	Unknown	Non-jurisdictional	Brookside Lower Pond off of Brookside Road
Brookside Rd. Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Brookside Road Pond off of Brookside Road
Brookside Road Upper Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Brookside Road Upper Pond off of Brookside Road
East Mt. Reservoir Dam	Significant	Small	Poor		East Mountain Reservoir off of Pine Street
Flowering Branch Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Stony Brook off of Stony Brook Road
Fountain Park Pond Dam	Low	Small	Fair		Fountain Pond off of Stockbridge Road
Kirchoff Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Thomas and Palmer Brook off of State Road
Long Pond Dam	Significant	Large	Good		Long Pond off of Division Street
Lower Blodgett Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Long Pond Brook off of Alford Road
Riggs Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Riggs Pond on Beartown MountainRoad
Rising Paper Co. Dam	Significant	Large	Good		Housatonic River off of Park Street
Round Pond Dam	Low	Intermediate	Poor		Round Pond off of Long Pond Road
Simons Rock Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Simons Rock Pond off of Alford Road
South Pond Dam (Butternut)	Low	Small	Fair		South Pond off of State Pond

Source: (Office of Dam Safety, 2004)

Other Natural Hazards

Other than flooding, the Town of Great Barrington does not have any locations in town that are more susceptible to natural hazard events. Winter storms, wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Great Barrington, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms), severe storms (thunderstorm, wind, hail, lightning) and hurricane's and tropical storms; **moderate risk** from dam failure, tornados, wildfire, extreme temperatures and drought; and **low risk** for landslide, earthquakes and ice jams.

Town of Hancock Natural Hazard Risk Assessment

Community Profile

The Town of Hancock is located in northwest Berkshire County. It is bordered by Williamstown on the north; New Ashford, Lanesborough, and Pittsfield on the east; Richmond on the south; and New Lebanon, Stephentown, and Berlin, New York on the west. Approximately twenty miles long and three miles wide, it is the longest town in Berkshire County. In order to go from the north end of town to the south end, it is necessary to leave the town and the state and then re-enter. Hancock is primarily a residential and agricultural community with limited commercial development. The notable exception is the Jiminy Peak ski area, which draws thousands of skiers to the area each winter.

The Town of Hancock covers an area of 35.72 square miles. The town's 2010 Census population is 717, giving a density of 20 people/square mile. The historic population peak of the town was in 1790 when it had a population of 1,211. The town has had a fluctuating population of 300 to 700 between 1880 and 2010 (US Census Bureau).

There are 299 occupied housing units, resulting in a household size of 2.4 people per household. The town has 208 seasonal housing units, or 39% of their housing stock (US Census Bureau). The predominant land uses in town are forests (89.8%), agriculture (4.9%) and residential (1.8%) (MassGIS, 2010). The elementary school (Hancock) is in Hancock, while older students tend to go to the New Lebanon, NY school district or Mount Greylock Regional School District.

Critical Facilities

A list of the critical facilities within the community is shown in table 39. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 39. Critical Facilities - Hancock

Critical Facility	Location	Address
Fire Department	Firehouse #1	3276 Hancock Road
	Firehouse #2	243 Lebanon Mountain Road
Town Offices	Town Hall	3650 Hancock Road
	DPW (Salt Shed on Clark Road)	Clark Road
Emergency Operations Center (EOC)	Firehouse #1	3276 Hancock Road
Schools	Hancock Elementary	3080 Hancock Road
Shelters	Hancock Elementary	3080 Hancock Road
	Hancock Shaker Village	1843 W. Housatonic Street

Flood Prone Areas

Hancock has several small streams starting in town and running into adjacent communities. These include the West Branch of the Green River, Kindercook Creek, Whitman Brook, Bentley Brook,

Rathburn Brook, Lilly Brook, Shaker Brook North Brook and Lebanon Brook. The town is also home to Berry Pond, the highest elevation natural water body in Massachusetts. The town also has Starobin Pond, which is adjacent to Route 43.

The town has several areas of concern when it comes to flooding.

Starobin Pond has beaver activity which causes flooding of Whitman Road, impeding the ability of residents to access their homes. The flooding is also causing problems for businesses in the area.

The wetland area between Main Street and Main Road (Route 43) periodically floods residences. The Army Corps installed a drainage system, raising riverbed walls and dredging the brook to help alleviate the problem as it is a low point, but over time vegetation has grown changing the dynamic of the area.

A stream runs alongside Madden Road and crosses it in two locations. At one of these locations, the culvert is too small, causing the stream to overflow onto the road, washing it out. This is a dead end road, so there are several residences that are cut off when the road floods.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 269.9 acres of 100-year floodplain within the town. This amounts to 1.2% of the total town. Based on additional analysis, 6.6 acres (2.46%) of the floodplain are developed. This leaves 263.3 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does not currently have a floodplain bylaw. Currently there are no commercial buildings or industrial buildings in the floodplain; however it does have 18 residential buildings (2.6 %) within the floodplain (Table 40) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 41.

Table 40. Number of Buildings within Floodplain - Hancock

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
18	2.8%	0	0.0%	0	0.0%	18	2.6%

Source: (Berkshire Regional Planning Commission, 2010)

Table 41. Loss Estimate for Properties within the 100-year Floodplain ($000) - Hancock

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$5,212	$2,606	$0	$0	$0	$0	$7,818

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 1 flood insurance claims in Hancock since 1978, totaling $4,353 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). None of the critical facilities are within the floodplain, however the school is below the Starobin Pond and the beaver issues, so it has the potential to flood.

Structurally Deficient Bridges over Waterways

Hancock does not have any bridges over water that are classified by MassDOT as "structurally deficient" (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists three (3) dams in the Town of Hancock as shown in Table 42. None of these dams are of high hazard. Jiminy Peak Pond Dam is considered in fair to poor condition, but is considered a low hazard (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low risk for dam failure.

Table 42. Dams - Hancock

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Jiminy Peak Pond Dam	Low	Small	Fair / Poor		Jiminy Peak Pond off of Corey Road
Shaker Reservoir Dam	Low	Intermediate	Fair		Shaker Brook off of Lebanon Mountain Road
Starobin Pond	Low			Non-Jurisdictional	Starobin Pond off of Whitman Road

Source: (Office of Dam Safety, 2004)

Wildfire

Like most of the county, Hancock is at a low risk to wildfires due to its type of vegetation and climate. However, Berry Pond on Porter Mountain in the Pittsfield State Forest is an area of higher concern for wildfire due to the campgrounds and human / wildland interface.

High Winds

The rugged topography and elevation of Hancock leads to high winds throughout the town, however Jiminy Peak as well as Brodie Mountain, is at a higher risk than the rest of the town. These higher winds are specifically why wind turbines are located on these mountains.

Other Natural Hazards

Other than the above mentioned hazards, the Town of Hancock does not have any locations in town that are more susceptible to natural hazard events. Winter storms, earthquakes, landslides and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Hancock, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of Lee Natural Hazard Risk Assessment

Community Profile

Lee is nestled in the Housatonic River valley in the heart of the Berkshire mountains of western Massachusetts. Lee is often referred to as the "Gateway to the Berkshires" due to its location at Exit 2 of the Massachusetts Turnpike. Lee is the first Berkshire destination of travelers and tourists from the south, east, and west.

The Town of Lee covers an area of 27.0 square miles. The town's population is 5,943, giving a density of 220 people/square mile. The town has been experiencing a decline in population since 1970 when it hit a peak of 6,426. This equates to a decline of almost 500 people since 1970 (US Census Bureau).

There are 2,560 occupied housing units, resulting in a household size of 2.3 people per household. Lee does have a large seasonal population, which can be seen through the 354 seasonal housing units, which is 11.6% of the housing stock (US Census Bureau). The predominant land uses in town are forests (67.3%), residential (8.3%), agriculture (7.2%) and commercial/industrial (2.2%) (MassGIS, 2010). The town belongs to the Lee School District. The elementary school along with the middle/high school are all located in Lee.

Critical Facilities

A list of the critical facilities within the community is shown in table 43. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 43. Critical Facilities – Lee

	Name	***Address***
Fire	South Lee Fire Station	Rte 102, Pleasant Street
	Central Fire Station	45 Railroad Street
Police	Police Department	32 Main Street
	Mass State Police Barracks	Laurel Street
Health Services	Lee Ambulance	177 Main Street
	Laurel Lake Health Care Center	620 Laurel Road
	Suburban Medical Center	710 Stockbridge Road
	Lee Family Practice	11 Quarry Hill Road
	Village At Laurel Lake	600 Laurel Road
Town Offices	Town Hall	32 Main Street
Emergency Operations Center	Lee Town Hall	32 Main Street
Alternate Emergency Operations Center	Lee Ambulance Building	177 Main Street
Public Works	Public Works Garage	45 Railroad Street
	Waste Water Treatment Plant	379 Pleasant Street
	Lee Water Treatment Plant	300 Reservoir Road
Schools	Lee High and Middle School	300 Greylock Street
	Lee Elementary School	310 Greylock Street

	St. Mary's School	115 Orchard Street
Shelters	Lee High and Middle School	300 Greylock Street
	Lee Elementary School	310 Greylock Street
	Lee Senior Center	45 Railroad Street
	St. Mary's School	115 Orchard Street
	South Lee Fire Station	Rte 102, Pleasant Street
	Lee Ambulance Building	177 Main Street
	Laurel Lake Health Care Center	620 Laurel Road
Special Needs Facilities	Laurel Lake Health Care Center	620 Laurel Road
	Kids Corner	915 Pleasant Street
	Laurel House	150 Laurel Street
	Lee Youth Center	13 Academy Street
	Hyde Place	46 Railroad Street
	Lee Elementary School	310 Greylock Street
	Lee High and Middle School	300 Greylock Street
	St. Mary's School	115 Orchard Street
	Brown Memorial Court	155 Marble Street
	Budd House	185 Marble Street

Flood Prone Areas

Lee is bisected by the Housatonic River and includes several streams feeding into the river. The streams include Will Brook, Beartown Brook, Hop Brook, Goose Pond Brook, Greenwater Pond Brook, Basin Pond Brook, Barnes Brook, Washington Mountain Brook and Codding Brook. The town also has several large water bodies, including Woods Pond, Laurel Lake, Goose Pond, and Upper Goose Pond.

The town has several areas of concern when it comes to flooding.

Route 20 approaches Laurel Lake at a low spot and periodically overflows onto the road. MassDOT and DCR are working to install a new culvert to alleviate the flooding concerns.

There is a marshy area adjacent to Route 102 around Marble Street. Water will often flow over the road during large storms and snow events, undermining the infrastructure. There is a residence in this area that is impacted by the flooding.

There are beavers located around Fairview Street which have built extensive dams. The town has a permit to trap the beavers and does so a few times a year.

There is a stream that crosses Meadow Street that has an undersized culvert. The stream handles a large amount of water, primarily from mountain run-off and the culvert does not have the capacity for this flow during heavy storms. This is a highly populated area and the flooding could impact a large number of people.

There is a junk yard on Meadow Street that is in the floodplain and routinely floods. The town is concerned about contamination during these flooding events.

Around where the Mass Pike crosses Chestnut Street, there are drainage swales that are of inadequate size. This leads to icing issues along the roads. The town and MassDOT work to maintain this area and minimize the impact of the icing.

Along the Mass Pike in the area around the rest stops, there is a culvert that cannot handle the amount of water draining into it from the Turnpike. The road infrastructure is damaged and the residences are affected by flooding.

The water treatment plant is located at the bottom of a watershed area, which results in a strong aquifer recharge. The plant has infiltrators in the ground which can get overwhelmed during storms. The road leading to the treatment plant is gravel and washes away every year and exposes the water line.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 1,965.7 acres of 100-year floodplain within the town. This amounts to 11.4% of the total town. Based on additional analysis, 220.1 acres (11.2%) of the floodplain are developed. This leaves 1745.6 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30 as shown on the FIRM. Currently there are 47 commercial buildings (36.2%), 18 industrial (28.1%) and 165 residential buildings (7.8%) within the floodplain (table 44) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 45.

Table 44. Number of Buildings in Floodplain - Lee

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
167	7.5%	47	34.3%	19	27.9%	233	9.6%

Source: (Berkshire Regional Planning Commission, 2010)

Table 45. Loss Estimate for Properties within the 100-year Floodplain ($000) - Lee

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$47,351	$23,676	$54,918	$54,918	$14,481	$18,102	$213,446

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 8 flood insurance claims in Lee since 1978, totaling $18,294 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009).

The wastewater treatment plant along with several pumping stations are in the floodplain, but beyond that there are no other critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

Lee has one bridge over water that is classified by MassDOT as "structurally deficient". This bridge is on Old Pleasant Street, crosses the Housatonic River and is currently being replaced (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists ten (10) dams in the Town of Lee as shown in Table 46. Two (2) of these dams are of significant hazard, Laurel Lake Dam and Leahy (Upper) Reservoir Dam. Both of these dams are considered to be in good condition. Two dams are in Poor or Unsafe conditions, Middle Reservoir Dam and Lower Reservoir Dam, but they both are classified as a low hazard (Office of Dam Safety, 2004). The town has concerns over the Goose Pond dam in Tyringham as a failure would impact much of Lee. This dam, however, is well maintained. Given these dams, the town considers itself to be of moderate risk for dam failure.

Table 46. Dams - Lee

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Columbia Mill	Significant	Large	Fair		Housatonic River off of Columbia Street
Diversion Dam	Low	Small	Fair		Goose Pond Brook off of Forest Street
Gamelli Lake	Low	Unknown	Unknown	Non-Jurisdictional	Greenwater Pond Brook off of Cape Street
Hurlbut Dam	Significant	Intermediate	Fair		Housatonic River off of Willow Street
Laurel Lake Dam	High	Intermediate	Good		Laurel Lake off of Laurel Street
Leahy (Upper) Reservoir	High	Large	Good		Upper Reservoir off of Reservoir Road
Lower Reservoir Dam	Low		Unsafe	Non-Jurisdictional	Lower Reservoir off of Reservoir

					Road
Middle Reservoir Dam	Low	Unknown	Poor	Non-Jurisdictional	Middle Reservoir off of Reservoir Road
Perkins Dam	Low	Unknown	Unknown	Non-Jurisdictional	Perkins Pond off of Devon Road
Woods Pond Dam	Significant	Large	Good		Woods Pond (Housatonic River) off of Valley Street

Source: (Office of Dam Safety, 2004)

Wildfire Risk

The Town of Lee considers itself to be at a moderate risk to wildfire. The risk is greatest in the eastern part of town in October Mountain State Forest.

High Winds and Snow

The town is at a high risk to snow and high winds. The entire town is at risk, however the eastern part of town is at a higher risk due to the elevation. Most of this area is around October Mountain State Forest. The town is also concerned about the downtown area and around Summer Street which have large old trees which often drop limbs during high winds and heavy snows.

Other Natural Hazards

Other than the above mentioned hazards, the Town of Lee does not have any locations in town that are more susceptible to natural hazard events. Landslides, earthquakes and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Lee, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from tornados, wildfire, and extreme temperatures; and **low risk** for dam failure, hurricane and tropical storms, landslide, earthquakes, drought and ice jams.

Town of Lenox Natural Hazard Risk Assessment

Community Profile

The Town of Lenox is a moderately-sized town within Berkshire County. Historic, cultural and tourist oriented attractions are the economic base of the town. The town is relatively affluent due to a thriving tourism industry which supports a vibrant mix of commercial businesses, high-quality restaurants, resorts and B&Bs. Lenox is bordered to north by Pittsfield, to the east by Washington and Lee, to the south by Lee and West Stockbridge, and to the west by Richmond.

The town is flanked by mountains to the west (the Lenox Mountain complex and Rattlesnake Hill) and to the east by the October Mountain complex. The Housatonic River meanders southward along the base of October Mountain in the eastern portion of the town. Elevations in the town range from 2,146 and 1,860 feet in the Lenox Mountain complex on the western border of the town to a low elevation of 925 feet along the Housatonic River in Lenox Dale (MassGIS, 2010).

The Town of Lenox covers an area of 21.66 square miles. The town's population is 5,025, giving a density of 232 people/square mile. The town has experienced a relatively level population since 1990, but has declined since its historic high of 6,523 in 1980 (US Census Bureau).

There are 2,283 occupied housing units, resulting in a household size of 2.2 people per household. Lenox has a large seasonal population due to 571 seasonal housing units (18.8%) (US Census Bureau). The predominant land uses in town are forests (67.6%), residential (8.3%), agriculture (3.7%) and commercial/industrial (2.5%) (MassGIS, 2010). The town belongs to the Lenox School District. The elementary school (Morris) and the middle/high (Lenox Memorial) are both located in Lenox.

Critical Facilities

A list of the critical facilities within the community is shown in table 47. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 47. Critical Facilities - Lenox

	Name	*Address*
Fire	Central Fire Station	14 Walker Street
	Lenox Dale Fire Station	26 Elm Street
	New Lenox Fire Station	399 Pittsfield Road
Police	Police Department	6 Walker Street
Health Services	Lenox Ambulance Service	14 Walker Street
	Kimball Farms	235 Walker Street
	Central Fire Station	14 Walker Street
	Lenox Dale Fire Station	26 Elm Street
	New Lenox Fire Station	399 Pittsfield Road
	Kimball Farms Nursing Care Facility	40 Sunset Avenue
	Sisters of Providence Care	320 Pittsfield Road
Town Offices	Town Hall	6 Walker Street
Emergency Operations Center	Central Fire Station	14 Walker Street
Alternate Emergency Operations Center	Lenox Dale Fire Station	26 Elm Street
Public Works	Waste Water Treatment Plant	239 Crystal Street
	Water Treatment	471 Reservoir Road
	Brunell Waste Water Pump Station	42 Brunell Avenue
	Henry Waste Water Pump Station	35 Henry Avenue
	New Lenox Waste Water Pump Station	266 New Lenox Road
	Kennedy Tank	lat 42-22-01 long 073-17-00
	Washington Mountain Tank	lat 42-20-15 long 073-13-06
	New Lenox Water Booster Station	lat 42-23-33 long 073-17-53
	Department of Public Works	275 Main Street
State Public Works	MA Highway District One Garage	270 Main Street
Schools	Highpoint School	242 West Mountain Road
	Berkshire County Christian School	259 Kemble Street
	Morris School	129 West Street
	Lenox Memorial Middle & Senior High School	197 East Street
	Hillcrest Educational Center	349 Old Stockbridge Road
	Berkshire Montessori School	21 Patterson Road, Lenox Dale
Shelters	Sisters of Providence Care	320 Pittsfield Road
	The Curtis Retirement Home	6 Main Street
	Lenox Middle & Senior High School	197 East Street
	Morris Elementary	129 West Street
	Canyon Ranch Resort	165 Kemple Street
	Shakespeare Theatre Company	70 Kemple Street
	Kimball Farms Nursing	235 Walker Street
	Curtis Housing	6 Main Street
	Kimball Farms Nursing Care Facility	40 Sunset Avenue
	Highpoint School	242 West Mountain Road
	Hillcrest Educational Center	349 Old Stockbridge Road
Special Needs Facilities	Highpoint School	242 West Mountain Road
	Devonshire Estates	329 Pittsfield Road
	Providence Care Center of Lenox	320 Pittsfield Road
	Kimball Farms Nursing Care Facility	40 Sunset Avenue
	Morris School	129 West Street
	Curtis Elderly House	6 Main Street
	Curtis Family Housing	11 & 13 Church Street

	Lenox Housing Authority - Physically & Mentally Challenged	25 West Street
	Lenox Children's Center	9 Old Center Street
	Nursing Care Center At Kimball Farms	235 Walker Street
	Kimball Farms	235 Walker Street
	Lenox Memorial Middle & Senior High School	197 East Street
	Lenox Hill Housing (Physically Challenged)	45 Golden Hill Road
	Hillcrest Educational Center, Center Campus	349 Old Stockbridge Road
	Bright Beginnings Nursery School	6 Holmes Road
	Berkshire County Christian School	259 Kemble Street
	Berkshire County Christian Nursery School	259 Kemble Street
	Tunure Terrace Elderly Housing	32-34-36 Stockbridge Road
	Cameron House, Assisted Living	109 Housatonic Street
	Kimball Farms, Pine Hill Assisted Living	235 Walker Street

Flood Prone Areas

The Housatonic River traverses Lenox from Pittsfield south to Lee. There are several streams that feed into the river, including Yokun Brook, Mill Brook, Roaring Brook, Willow Creek, Sawmill Brook, Marsh Brook, and Sargent Brook. Lenox also has Woods Pond and Laurel Lake, which it shares with Lee, along with Upper and Lower Lenox Reservoir.

There are several areas that have caused flooding problems.

Yokun Brook crosses Edgewood Drive and causes flooding. Debris tends to come downstream and block the culvert, causing flooding on the road. Edgewood Drive is a dead end and the flooding causes several residences to be cut off.

Roaring Brook Road has flooding problems where it crosses Roaring Brook. This flooding is due to beavers.

Sargent Brook causes flooding in two locations. The Route 7 crossing periodically floods due to beaver activity. Plunkett Road floods due to the inadequate size of the culvert.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 1,777.8 acres of 100-year floodplain within the town. This amounts to 12.8% of the total town. Based on additional analysis, 40.5 acres (2.3%) of the floodplain are developed. This leaves 1,737.3 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30 a shown on the FIRM. Currently there are 5 commercial buildings (3.8%), 9 industrial (37.5%) and 38 residential buildings (1.9%) within the floodplain (Table 48) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 49.

Table 48. Number of Buildings in Floodplain - Lenox

Buildings in Floodplain							
Residential		Commercial	No.	Industrial	No.	Total	
No.	Percent	Percent		Percent		No.	Percent
38	1.8%	5	3.9%	8	40.0%	51	2.2%

Source: (Berkshire Regional Planning Commission, 2010)

Table 49. Loss Estimate for Properties within the 100-year Floodplain ($000) - Lenox

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$17,385	$8,693	$6,808	$6,808	$3,173	$3,966	$46,833

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 6 flood insurance claims in Lenox since 1978, totaling $28,599 (MEMA, 2010). There is one repetitive flood loss property within the town, which has filed 2 claims for $16,988.50 (MEMA, 2009).

There are no critical municipal facilities are located within the floodplain. However, there are a few areas where main water lines are exposed to the force of flood waters by being suspended below bridges. These include the water main under the New Lenox Road bridge and the Mill Street bridge, both of which cross the Housatonic River. In addition, a main sewer line is exposed along lower Housatonic Street. The wastewater treatment plant is below the Lower Root Reservoir dam and would be inundated if the dam failed. Also, the Henry Avenue waste water pumping station often has flooding during a storm event as there are stormdrains which are connected to the wastewater system which cause the pump to exceed its capacity.

Structurally Deficient Bridges over Waterways

Lenox does not have any bridges over water that are classified by MassDOT as “structurally deficient” (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists five (5) dams in the Town of Lenox as shown in Table 50. Two (2) of these dams, Upper and Lower Root Reservoirs, are of significant hazard, however they are in good condition. There are two dams, Aspin Wall Dam and Beaver Dam, that are in poor condition, but both of these are non-jurisdictional dams and of low hazard (Office of Dam Safety, 2004). The town is concerned by the dams associated with the Pittsfield water supply, as the inundation areas for these dams cover a portion of town. These inundation areas are mostly in the undeveloped floodplain of the Housatonic River, but some properties would be impacted. Given these dams, the town considers itself to be of moderate risk for dam failure.

Table 50. Dams - Lenox

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Aspin Wall Dam	Low			Breached	Yokun Brook off of West Mountain Road
Beaver Dam	Low		Poor	Non-Jurisdictional	Unknown
Lower Root Reservoir	High	Intermediate	Good		Lower Root Reservoir off of Reservoir Road
Upper Root Reservoir	High	Intermediate	Good		Upper Root Reservoir off of Reservoir Road
Woolsey Reservoir Dam	Significant		Fair	Non-Jurisdictional	West Mountain Road and Reservoir Road area

Source: (Office of Dam Safety, 2004)

Lenox is also at risk to dam failures from dams outside of the town. The Farnham Reservoir dam in Washington is owned by the city of Pittsfield. If this dam fails, the water will come down Mill Brook till it reaches the Housatonic River. Farnham Reservoir is a large reservoir and will inundate a large area of Lenox east of the Housatonic River and some areas west of the Housatonic River opposite Mill Brook.

Other Natural Hazards

Other than flooding, the Town of Lenox does not have any locations in town that are more susceptible to natural hazard events. Winter storms, wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Lenox, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, extreme temperatures, drought and wildfire; and **low risk** for landslide, earthquakes and ice jams.

Town of Monterey Natural Hazard Risk Assessment

Community Profile

The Town of Monterey is located in southeastern Berkshire County at the western edge of the Berkshire Plateau. It is bordered by Tyringham on the northeast, Otis on the east, Sandisfield on the southeast, New Marlborough on the south, and Great Barrington on the west. At an average elevation of about 1,200 ft., it is a hilly, heavily forested, rural community with many streams, ponds, wetlands and open fields that make it a very desirable place to live and recreate. Included within its boundaries are 4,500 acres of Beartown State Forest and two major lakes, Lake Buel and Lake Garfield, which provide residents and tourists with numerous outdoor recreation opportunities. Its natural beauty and rural charm have made it an increasingly popular location for second homeowners and retirees, mostly from the New York City area.

The Town of Monterey covers an area of 27.39 square miles. The town's population is 961, giving a density of 35 people/square mile. The town has experienced a steady increase in population over the last century, growing about 7.5 people/year since 1920 (US Census Bureau).

There are 426 occupied housing units, resulting in a household size of 2.3 people per household. Monterey has a large seasonal population, having 463 seasonal housing units, which is 49.9% of the housing stock (US Census Bureau). The predominant land uses in town are forests (83.9%), agriculture (4.1%) and residential (3.4%) (MassGIS, 2010). The town belongs to the Southern Berkshire Regional School District. The elementary school (Monterey K-1) is in Monterey, but the remaining grades are in Sheffield.

Critical Facilities

A list of the critical facilities within the community is shown in table 51. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 51. Critical Facilities - Monterey

Type	*Name*	*Address*
Fire	Fire Station	Rte 23, 411 Main Road
Police	Police Station	435 Main Road
Health Services	Fire Station	Rte 23, 411 Main Road
Public Works	Town Garage	40 Gould Road
Town Offices	Town Hall	435 Main Road
Emergency Operations Center	Monterey Fire Station	411 Main Road
Alternate Operations Center	Monterey Town Hall	435 Main Road
Schools	Monterey Kindergarten School	459 Main Road
Special Needs	Gould Farm	100 Gould Farm Road
	Monterey Kindergarten School	459 Main Road
	Camp Half Moon	9 Lake Buel Road
	New England Keswick	73 Chestnut Hill Road
	KSA	24 Deerwood Park Circle

Flood Prone Areas

Monterey has several lakes, which all tend to have residences developed around. These lakes include Lake Garfield, Lake Buel and Stevens Lake. There are also several streams, including Konkapot River, Swan Brook, Loom Brook and Rawson Brook.

The area around Lake Buel is a major concern when it comes to flooding. The outlet from Lake Garfield forms a brook (Konkapot River) which meanders downstream almost a mile before it joins the brook formed by the outlet of Lake Buel. Just below the confluence of these two brooks, silt builds up and will cause the water to backwash into Lake Buel. As a result, Lake Garfield is in effect draining into Lake Buel. This happens very frequently and causes 20-30 residences to flood on a regular basis. The area of the brook that is silted is in New Marlborough. The roads which flood and which the homes are on are owned by the Lake Buel District. River Road is closed because Hatchery Road, in New Marlborough, is still washed out

Fairview Road washes out on a regular basis. The road is a gravel road and does not have adequate stormwater control.

The bridge over Curtis Road at the Konkapot River crossing is inadequate in size and occasionally causes flooding.

The Wellman Road bridge over Rawson Brook is too small and causes flooding. This flooding occurs around the bridge and west down the road and onto Gould Road.

Significant flooding occurs on Harmon Road and Robinson Road. This is near the confluence of Rawson Brook and another smaller brook. The flooding is caused by undersized culverts and bridges.

There are beavers around Tyringham Road which cause flooding of the road.

There are two bridges on Beartown Mountain Road that are subject to flooding.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 1,011.9 acres of 100-year floodplain within the town. This amounts to 5.8% of the total town. Based on additional analysis, 38.4 acres (3.8%) of the floodplain are developed. This leaves 973.5 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does not currently have a floodplain bylaw. Currently there are 9 commercial buildings (100.0%), 0 industrial (0.0%) and 84 residential buildings (11.6%) within the floodplain (Table 52) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 53.

Table 52. Number of Buildings in Floodplain - Monterey

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
85	11.0%	8	100.0%	0	0.0%	93	11.9%

Source: (Berkshire Regional Planning Commission, 2010)

Table 53. Loss Estimate for Properties within the 100-year Floodplain ($000) - Monterey

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$52,183	$26,092	$9,997	$9,997	$0	$0	$98,269

(Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 14 flood insurance claims in Monterey since 1978, totaling $239,542 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). There are no critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

Monterey has no bridges over water that are classified by MassDOT as "structurally deficient" (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists seven (7) dams in the Town of Monterey as shown in Table 54. One of these dams, Lake Garfield Dam, is of significant hazard, but is in good condition. The town does have one dam, the Steadman Pond dam, also known as the Hudson Trout dam, that is in poor condition, but is a low hazard risk (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low risk for dam failure.

Table 54. Dams - Monterey

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Hobbit Pond Dam	Low		Fair	Non-Jurisdictional	Off of Blue Hill Road
Konkapot River Dam	Low	Small	Fair		Konkapot River between New Marlborough Road and Sandisfield Road
Lake Garfield Dam	High	Large	Good		Lake Garfield on Tyringham Road

Roland Pond Dam	Low			Non-Jurisdictional	Rawson Brook off of Chestnut Hill Road
Stedman Marsh Dam	Low			Breached	Stedman Pond off of Cronk Road
Steadman Pond (Hudson Trout Dam)	Low	Intermediate	Poor		Steadman Pond off of Tyringham Road
Stevens Pond Dam	Significant	Intermediate	Fair		Stevens Lake off of Stevens Lake Road

Source: (Office of Dam Safety, 2004)

Winter Storms

The higher elevations in town are more susceptible to snowfall, especially areas around Beartown Mountain Road and the top of Mount Hunger Road. Snow will often be falling in these areas while it is still raining in the valley.

Other Natural Hazards

Other than flooding and winter storms, the Town of Monterey does not have any locations in town that are more susceptible to natural hazard events. Wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Monterey, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of New Marlborough Natural Hazard Risk Assessment

Community Profile

The Town of New Marlborough covers an area of 47.88 square miles. The town's population is 1,509, giving a density of 32 people/square mile. The town has experienced a steady increase in population since 1930, gaining about eight people/year (US Census Bureau).

There are 630 occupied housing units, resulting in a household size of 2.4 people per household. New Marlborough has an additional 347 seasonal housing units, or 33.4% of the total housing unit supply (US Census Bureau). The predominant land uses in town are forests (79.4%), agriculture (8.7%) and residential (3.1%) (MassGIS, 2010). The town belongs to the Southern Berkshire Regional School District. The elementary school (New Marlborough K-1) is in New Marlborough, but the remaining grades are in Sheffield.

Critical Facilities

A list of the critical facilities within the community is shown in table 55. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 55. Critical Facilities - New Marlborough

Type	*Name*	*Address*
Fire	Fire Station	207 Norfolk Road
Police	Police Department	Mill River - Southfield Road
Health Services	Fire Station	207 Norfolk Road
Town Offices	Town Hall	Mill River-Southfield Road
Emergency Operations Center	Fire Station	207 Norfolk Road
Alternate Emergency Operations Center	Town Hall	Mill River Road
Public Works	Town Garage	Mill River – Southfield Road
Schools	Kolburne School	343 New Marlborough Southfield Road
	New Marlborough Central Elementary School	Hartsville-Mill River Road
Shelters	New Marlborough Central Elementary School	Hartsville-Mill River Road
	Fire Station	207 Norfolk Road
Special Needs	Kolburne School	351 New Marlborough Southfield Road
	New Marlborough Central Elementary School	Hartville-Mill River Road

Flood Prone Areas

New Marlborough has several lakes and ponds along with a network of streams. Thousand Acre Lake, Windmere Lake, East India Pond, Hay Meadow Pond, Harmon Pond and York Lake are all in the southeast corner of the town and Lake Buel is in the northwest corner. Some of the major streams that are in town include the Konkapot River, Harmon Brook, Umpachere River, and Whiting River.

The area around the confluence of the outlets of Lake Garfield and Lake Buel is a serious flooding concern. The outlet from Lake Garfield forms a brook (Konkapot River) which meanders downstream almost a mile before it joins the brook formed by the outlet of Lake Buel. Just below the confluence of these two brooks, silt builds up and will cause the water to backwash into Lake Buel. This also causes extensive flooding around the Hartsville-Mill River Road, which is just below the confluence. Hatchery Road is also closed due to damage caused by this flooding along the Konkapot River.

The Konkapot River causes repeated flooding along its entire length, from the Lake Buel confluence to the Connecticut state line. The stream banks along the roadway are in danger of washing into the stream and compromising the roadway.

New Marlborough-Monterey Road has flooding due to beavers. The beaver dam is next to the road and is an estimated ten feet above the road surface. Damage to this dam leading to the release of its water will compromise the roadway.

The New Marlborough-Southfield Road has flooding problems as well. Where the road comes close to the river, the banks are beginning to washout and compromise the roadway. Also, the bridge over the river on Norfolk Road is in poor condition, according to the town. MassDOT does not consider this bridge to be structurally deficient, but the town is concerned about it. If this bridge or roadway were to be washed out, EMS services could not reach the northern part of town in a timely manner without having a 10 minute detour.

Hadsell Street has flooding concerns as it is adjacent to the Umpachene River.

Easthill Road and Hotchkiss Road have runoff problems due to improper stormwater devices.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 2,230.1 acres of 100-year floodplain within the town. This amounts to 7.3% of the total town. Based on additional analysis, 56.2 acres (2.5%) of the floodplain are developed. This leaves 2,173.9 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does not currently have a floodplain bylaw. Currently there are 1 commercial buildings (2.6%), 3 industrial (33.3%) and 82 residential buildings (8.5%) within the floodplain (Table 56) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 57.

Table 56. Number of Buildings in Floodplain - New Marlborough

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
82	8.5%	1	2.6%	3	33.3%	86	8.5%

Source: (Berkshire Regional Planning Commission, 2010)

Table 57. Loss Estimate for Properties within the 100-year Floodplain ($000) - New Marlborough

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$38,683	$19,341	$554	$554	$688	$860	$60,680

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 7 flood insurance claims in New Marlborough since 1978, totaling $22,563 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). There are no critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

New Marlborough has three (3) bridges over water that are classified by MassDOT as "structurally deficient". These three include the bridges on Hayes Hill Road and Hadsell Street as they cross the Konkapot River as well as the bridge on Mill River Hadsell Road as it crosses Umpachene River (MassDOT, 2010). All of these bridges are within the 100-year floodplain.

Hazard Potential of Dams

The DCR Office of Dam Safety lists ten (10) dams in the Town of New Marlborough as shown in Table 58. None of these dams are of significant hazard. There are two dams that are in poor condition, Gleason Pond Dam and Trout Pond Dam, but both are classified as a low hazard (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low risk for dam failure.

Table 58. Dams - New Marlborough

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Cookson Pond (Hay Meadow)	Low	Intermediate	Good		Hay Meadow Pond off of Norfolk Road
Gleason Pond Dam	Low	Unknown	Poor	Non-Jurisdictional	Between Knight Road and County Road
Harnett Pond Dam	Low	Intermediate	Fair		Harnett Pond off of Steepletop Road
Poulson Pond Dam	Low		Good	Non-Jurisdictional	Off of Norfolk Road by River Road
Rosenstein Pond Dam	Low	Small	Fair		Rosenstein Pond off of Clayton Mill River Road
Thousand Acre Site #1 Dam	Low	Intermediate	Good		Thousand Acre Lake off of Hotchkiss Road
Trout Pond Dam	Low	Small	Poor		Harmon Brook off of New Marlborough Monterey Road
Trout Pond Dam	Low			Non-Jurisdictional	Harmon Brook off of New Marlborough Sandisfield Road
Windemere Lake	Low	Intermediate	Good		Windmere Lake off of East Hill

Dam					Road
York Lake Dam	Significant	Intermediate	Good		York Pond off of East Hill Road

Source: (Office of Dam Safety, 2004)

Other Natural Hazards

Other than flooding, the Town of New Marlborough does not have any locations in town that are more susceptible to natural hazard events. Snow, wind, wildfire and other natural hazards can all occur in any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of New Marlborough, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of Otis Natural Hazard Risk Assessment

Community Profile

The Town of Otis is located in the southeast portion of Berkshire County. It is bordered by the towns of Tyringham, Monterey, Becket, Sandisfield, Tolland and Blandford. It is a town nestled quaintly along several lakes and ponds, against gentle slopes of the Berkshire Range, and in the Farmington River Valley.

The Town of Otis covers an area of 38.04 square miles. The town's population is 1,612, giving a density of 42 people/square mile. The town has experienced an increase in population since 1950 when it was at 359 residents, increasing 21 people/year (US Census Bureau).

There are 708 occupied housing units, resulting in a household size of 2.3 people per household. The town has 938 seasonal units, amounting to 55.1% of the housing stock (US Census Bureau). The predominant land uses in town are forests (82.1%), water (6.1%) and residential (3.4 %) (MassGIS, 2010). The town sends their elementary students to Farmington River Elementary School, located in town, but their middle and high school students go to either Lee or Berkshire Hills school districts.

Critical Facilities

A list of the critical facilities within the community is shown in table 59. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 59. Critical Facilities - Otis

Type	***Name***	***Address***
Fire	Otis Fire Station	15 South Main Street
	East Otis Fire Station # 2	10 Pine Road
Police	Police Department	1 North Main Road
Health Services	Otis Ambulance	15 South Main Street
	Otis Fire Station	15 South Main Street
Town Offices	Town Hall	1 North Main Street
Emergency Operations Center	Otis Fire Department	15 South Main Road
Alternate Emergency Operations Center	Otis Town Hall & Community Center	1 North Main Road
Public Works	Waste Water Treatment Plant	353 North Main Road
	Department of Public Works	417 North Main Road
State Highway Garage	Mass Highway	North Main Street
Schools	Farmington River Regional School	555 North Main Street
Shelters	Farmington River Regional School	555 North Main Street
	Town Hall Community Center	1 North Main Street
	Klondike Camp Area	North Main Road, Rte 8
	East Otis Fire Station # 2	10 Pine Road
Special Needs Facilities	Camp Lenox	2034 Main Road, Rte 8 S
	Farmington River Regional School	555 North Main Street

	Otis Ridge Martial Arts School / Otis Ridge Ski Camp	Judd Road
	Camp Bonnie Bray	950 Allegerie Road
	Camp Nawaka	620 Reservoir Road
Camps	Camp Lenox	2034 Main Road, Rte 8 S
	Camp Bonnie Bray	950 Allegerie Road
	Camp Nawaka	620 Reservoir Road

Flood Prone Areas

Otis has a couple of large lakes and several small ponds which are surrounded by residential development. These include Otis Reservoir, Big Pond, Benton Pond, White Lily Pond and Hayes Pond. There are also a number of streams that run through Otis, including the West Branch of the Farmington River, Spectacle Pond Brook, Benton Brook, Cone Brook, Wheeler Brook and Fall River.

There are several areas throughout Otis that are of concern for flooding.

The Farmington River floods Route 8 south of the town center. The river parallels the road in this section and can overtop the road during high flows. This is of concern to emergency vehicles as they will not be able to get to the southern part of town without a substantial detour.

Monterey Road floods at the crossing of Benton Brook due to beaver activity.

Tannery Road is subject to flooding by the Farmington River and needs a larger bridge or culvert to remedy.

There is an old stone culvert under Lee Westfield Road that needs to be replaced due to poor condition.

Flooding occurs along West Center Road, just below Pearl Road, due to an undersized culvert.

Reservoir Road is in danger of washing out if water from Otis Reservoir is ever released in large quantities due to dam failure or heavy rain. The culverts under the road are small and would not be able to handle the water.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 2,395.9 acres of 100-year floodplain within the town. This amounts to 9.8% of the total town. Based on additional analysis, 56.7 acres (2.3%) of the floodplain are developed. This leaves 2,339.2 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A, AE, AH, AO, AL-30 and A99 as shown on the FIRM. Currently there are 8 commercial buildings (22.2%), 4 industrial (44.4%) and 167 residential buildings (11.1 %) within the floodplain (Table 60) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 61.

Table 60. Number of Buildings in Floodplain - Otis

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
167	10.5%	8	30.8%	4	40.0%	179	11.0%

Source: (Berkshire Regional Planning Commission, 2010)

Table 61. Loss Estimate for Properties within the 100-year Floodplain ($000) - Otis

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$59,868	$29,934	$4,882	$4,882	$1,240	$1,550	$102,356

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there has been one flood insurance claim in Otis since 1978, totaling $21,453 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009).

The Fire Station on South Main Street is in the 100-year floodplain. The fire station serves the majority of the town as well as well as hosting the Otis Ambulance and the primary emergency operations center. Steps should be taken to floodproof the fire station and the property to prevent flooding and loss of access to the site.

Structurally Deficient Bridges over Waterways

Otis does not have any bridges over water that are classified by MassDOT as “structurally deficient” (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists seven (7) dams in the Town of Otis as shown in Table 62. One of these dams, Otis Reservoir Dam, is of significant hazard, but is in fair condition. There are three dams in Otis that are in poor or unsafe condition. The Creek Dam on Watson Pond and the Royal Pond Dam (also known as Acres Pond Dam) are in poor condition. The Hayden Pond Dam is in unsafe condition (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of moderate risk for dam failure.

Table 62. Dams - Otis

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Big Pond Dam	Low		Good	Non-Jurisdictional	Big Pond Dam off of Blandford Road
Hayden Pond Dam	Significant	Intermediate	Unsafe		Hayden Pond off of Ed Jones Road
Hayes Pond Dam	Low	Small	Fair		Hayes Pond off of Long Mountain Road
Otis Reservoir Dam	High	Large	Fair		Otis Reservoir off of Tolland Road
Royal (Acres) Pond Dam	Low		Poor	Non-Jurisdictional	Royal Pond off of Monterey Road
The Creek Dam (Watson Pond)	Low	Intermediate	Poor		Watson Pond off of Lee Westfield Road
White Lily Pond Dam	Low	Intermediate	Fair		White Lily Pond off of Lee Westfield Road

Source: (Office of Dam Safety, 2004)

Other Natural Hazards

Other than flooding, the Town of Otis does not have any locations in town that are more susceptible to natural hazard events. Winter storms, wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Otis, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

City of Pittsfield Natural Hazard Risk Assessment

Community Profile

The City of Pittsfield, located in central Berkshire County, is the largest municipality by population in the County, and is the major regional center for employment and services. It is bordered by the Richmond and Lenox on the south, Washington and Dalton on the east, Lanesborough on the north, and Hancock on the west. The City contains the confluence of the various branches of the Housatonic River and has three large lakes at least partially within its borders.

The City of Pittsfield covers an area of 42.45 square miles. The city's population is 44,737, giving a density of 1053 people/square mile. The city has experienced a steady decline in population since 1960 when it had a population of 57,879. This population decline amounts to over 260 people/year (US Census Bureau).

There are 19,653 occupied housing units, resulting in a household size of 2.3 people per household (US Census Bureau). The predominant land uses in town are forests (45.2 %), residential (21.2%), agriculture (6.2%) and commercial/industrial (5.9%) (MassGIS, 2010). The city belongs to the Pittsfield School District.

Critical Facilities

A list of the critical facilities within the community is shown in Table 63. This data was taken from the communities CEMP and reviewed for accuracy by the city. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 63. Critical Facilities - Pittsfield

	Name	***Address***
Fire	Pittsfield Fire Department	74 Columbus Avenue
	Fire Station # 5	54 Pecks Road
	Fire Station # 1	311 West Housatonic Street
	Fire Station # 6	8 Holmes Road
	Fire Station # 2	9 Somerset Avenue
Police	Police Department	Allen Street
Health Services	County Ambulance	175 Wahconah Street
	Action Ambulance	77 Seymour Street
	Action Ambulance	121 West Housatonic Street
	Berkshire Medical Center	725 North Street
	Berkshire Medical Center Hillcrest Campus	165 Tor Court
	Berkshire Medical Center Walk-In	510 North Street
	Red Cross of Berkshire County	480 West Street
	Mt. Greylock Extended Care	1000 North Street
	Springside of Pittsfield	255 Lebanon Street
	EPOCH Melbourne Place Assisted Living	140 Melbourne Avenue
	Hillcrest Commons	169 Valentine Road
	Berkshire Place	89 South Street
	Froio Senior Center	330 North Street

	Pittsfield Fire Department	74 Columbus Avenue
	Fire Station # 5	54 Pecks Road
	Fire Station # 1	311 West Housatonic Street
	Fire Station # 6	8 Holmes Road
	Fire Station # 2	9 Somerset Avenue
City Offices	City Hall	70 Allen Street
Emergency Operations Center	Pittsfield Fire Department Headquarters	74 Columbus Avenue
Alternate Emergency Operations Center	Emergency Management Building	235 Tyler Street
Public Works	Waste Water Treatment Plant	901 Holmes Road
	Public Works Garage	232 West Housatonic Street
Schools	Pittsfield High School	300 East Street
	Taconic High School	96 Valentine Road
	John T. Reid Middle School	950 North Street
	Silvio O Conte Community School	200 West Union Street
	Stearns School	75 Lebanon Avenue
	Williams School	50 Bushey Road
	Miss Hall's School	492 Holmes Road
	Sacred Heart School	1 Meadow Lane
	St. Joseph Central High	22 Maplewood Avenue
	St. Mark's Middle School	400 Columbus Avenue Ex
	Allendale Elementary School	180 Connecticut Avenue
	Crosby Elementary School	517 West Street
	Egremont Elementary School	84 Egremont Avenue
	Theodore Herberg Middle School	501 Pomeroy Avenue
	Hibbard Alternative School	280 Newell Street
	Morningside Community Elementary School	100 Burbank Street
	Berkshire Community College	1350 West Street
Prisons	Berkshire County House of Correction	467 Cheshire Road
Shelters	Pittsfield High School	300 East Street
	Taconic High School	96 Valentine Road
	John T. Reid Middle School	950 North Street
	Silvio O Conte Community School	200 West Union Street
	Stearns School	75 Lebanon Avenue
	Sacred Heart School	1 Meadow Lane
	St. Joseph Central High	22 Maplewood Avenue
	St. Mark's Middle School	400 Columbus Avenue Ext
	Allendale Elementary School	180 Connecticut Avenue
	Crosby Elementary School	517 West Street
	Theodore Herberg Middle School	501 Pomeroy Avenue
	Morningside Community Elementary School	100 Burbank Street
	Berkshire Community College	1350 West Street
Special Needs Facilities	Berkshire Community College	1350 West Street
	Pittsfield High School	300 East Street
	Taconic High School	96 Valentine Road

	John T. Reid Middle School	950 North Street
	Silvio O Conte Community School	200 West Union Street
	Stearns School	75 Lebanon Avenue
	Williams School	50 Bushey Road
	Miss Hall's School	492 Holmes Road
	Sacred Heart School	1 Meadow Lane
	St. Joseph Central High	22 Maplewood Avenue
	St. Mark's Middle School	400 Columbus Avenue Ex
	Allendale Elementary School	180 Connecticut Avenue
	Crosby Elementary School	517 West Street
	Egremont Elementary School	84 Egremont Avenue
	Theodore Herberg Middle School	501 Pomeroy Avenue
	Hibbard Alternative School	280 Newell Street
	Morningside Community Elementary School	100 Burbank Street
	Froio Senior Center	330 North Street
	Berkshire County House of Correction	467 Cheshire Road
	Mt. Greylock Extended Care	1000 North Street
	Springside of Pittsfield	255 Lebanon Street
	EPOCH Melbourne Place Assisted Living	140 Melbourne Avenue
	Hillcrest Commons	169 Valentine Road
	Berkshire Place	89 South Street
	Berkshire Medical Center	725 North Street

Flood Prone Areas

The hydrology of Pittsfield contains several large lakes, Onota, Pontoosuc, Richmond, several smaller waterbodies, Silver Lake, Morewood Lake, Goodrich Pond, Mud Pond and Pecks Pond, the Housatonic River (including the East Branch, West Branch and Southwest Branch) and several feeder streams, including Shaker Brook, Jacoby Brook, Smith Brook, Hawthorne Brook, Lulu Brook, Churchill Brook, Daniels Brook, South Brook, Maloy Brook, Onota Brook, Unkamet Brook, Brattle Brook, Sackett Brook, Sykes Brook and Wampenum Brook.

Pittsfield has numerous areas that are prone to flooding.

Upper North Street near New Road has an undersized culvert which tends to flood during the summer resulting in sediment flowing onto the road.

The Pittsfield Plaza on West Housatonic Street floods as Maloy Brook crosses the property. The large parking lot as well as part of West Housatonic Street tends to be underwater during heavy rains. The owners have recently added a retention area and cleaned/maintained the Army Corps structure. The changes appear to be working during heavy rain events. Maintenance of this storm water feature is important to help minimize the risk of flooding.

Glen Drive has previously had flooding problems due to the flashy nature of the Oak Hill Tributary. The city currently has a grant to make the brook less flashy and remove sediment, but will need to do regular maintenance to preserve the capacity.

The parking lot at Wahconah Park has stormwater problems. The existing system is collapsing on itself. A new stormwater system has been designed, but funding is not available to implement the new system.

The intersection of Center Street and West Street has problems due to it being a low point in the road network. During heavy rains, the water collects in the road area.

There is an undersized, open ditch which runs parallel to Upper North Street from Reid Middle School to Garland Avenue which causes flooding to surrounding properties. The ditch has filled in over a period of time, worsening the problem.

The area around North Street and Murphy Place has severe ponding of water.

The stormwater system around the intersection of Elm Street and Newel Street is poorly designed and causes localized flooding. It is on private property, yet also takes city stormwater.

The stormwater system capacity is inadequate around Plumb Road and Abby Roads around Holmes Road. The stormwater system backs up causing over road flooding which is compromising the road.

Stanton Avenue has water running down the side of the road, being discharged from various properties.

There is a bermed area next to Elm Street which can periodically flood. Several residences are impacted by the flooding. Permitting for the project is of concern.

The drainage around Marchesio Park has problems leading to flooding. A plan has been prepared by the city and they are working with Massachusetts Department of Environmental Protection on this.

A large pond forms during storms around Savoy Street and Sheffield Street.

During heavy spring rains, the Dan Casey Causeway periodically floods. The road is low lying and the culverts are presumed to be undersized. The long-term resolution is to redesign the culverts under the roadway to increase their capacity.

There are beaver problems throughout the city at the following locations:

- Wild Acres Pond (damming the spillway of upper dam & stream channel below dam)
- Southwest Branch of Housatonic River below Richmond Pond
- Wampenum Brook along South Mountain Road
- Malloy Brook along West Housatonic Street near Pittsfield Plaza
- May Brook along West St. past Berkshire Community College
- Hawthorne Brook along Cascade St. & CYC summer camp
- Smith Brook along Fort Hill Avenue
- Daniels Brook near Hancock Road
- West Branch of Housatonic River Wahconah Park
- West Branch of Housatonic River near the confluence of West/East Branches of Housatonic River in vicinity of Fred Garner Park
- East Branch of Housatonic River near confluence of East/West Branches of Housatonic River in vicinity of Fred Garner Park & Pomeroy Avenue
- Unkamet Brook along Crane Avenue

Upper reaches of Unkamet Brook
Unkamet Brook around Dalton Avenue and Merrill Road
Brattle Brook throughout Brattlebrook Park, East Branch of Housatonic River and Grand Avenue
Branch of Brattle Brook near Marchesio Park, Imperial Ave and McIntosh Avenue
Branch of Brattle Brook near WMECO Sub-station, Elaine Dr and Leona Dr
Sackett Brook in Kirvin Park causing flooding on Mountain Drive
Un-named stream channel near Conte School and West Union St

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 4,943.3 acres of 100-year floodplain within the city. This amounts to 18.2% of the total city. Based on additional analysis, 680.3 acres (13.8%) of the floodplain are developed. This leaves 4263.0 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The city does currently have a floodplain bylaw, protecting the floodway and zones A and A1-30. Currently there are 124 commercial buildings (16.4%), 71 industrial (32.6%) and 933 residential buildings (6.6%) within the floodplain (Table 64) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 65.

Table 64. Number of Buildings in Floodplain - Pittsfield

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
1061	7.4%	126	16.9%	62	25.1%	1249	8.1%

Source: (Berkshire Regional Planning Commission, 2010)

Table 65. Loss Estimate for Properties within the 100-year Floodplain ($000) - Pittsfield

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$200,799	$100,399	$71,602	$71,602	$32,366	$40,458	$517,226

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 100 flood insurance claims in Pittsfield since 1978, totaling $439,147 (MEMA, 2010). There are 5 repetitive flood loss properties within the town which have filed 16 claims amounting to $76,098.30 (MEMA, 2009).

Pittsfield does not have any critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

Pittsfield has eight (8) bridges that are classified by MassDOT as "structurally deficient". The bridges are on Lakeway Drive as it crosses Onota Lake, New Road and Mill Street as they crosses the West Branch of the Housatonic River and three bridges are on Hungerford Street as it crosses the Southwest Branch of the Housatonic River. One of the bridges on Hungerford Street is currently being repaired (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists 13 dams in the City of Pittsfield as shown in Table 66. Two of these dams are at significant hazard level, Pontoosuc Lake Dam and Onota Lake Dam. Pontoosuc Lake Dam is listed in the database as fair, but it was recently repaired and is in good condition, as is Onota Lake Dam. There are four dams that are designated in poor or unsafe condition. Bel Air Dam is considered to be a significant hazard, but Tel Electric Pond Dam and Gravesleigh Pond Dam are at low hazard level, and Gravesleigh being classified non-jurisdictional. The condition of Bel Air Dam is of concern to the city. Pecks Lower Pond Dam is in poor condition, but is breached and not a risk (Office of Dam Safety, 2004). The city also maintains numerous dams in Hinsdale, Dalton and Washington for its water supply. If any of these dams failed, significant portions of the city would be inundated, potentially causing catastrophic damage. Fortunately, all of these dams are in fair to good condition. Given all of these dams, the city considers itself at moderate-high risk for dam failure.

Table 66. Dams - Pittsfield

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Bel Air Dam	Significant	Intermediate	Unsafe		On West Branch of the Housatonic River along Wahconah Street
Camp St. Michael Dam	Low			Non-Jurisdictional	Between Barker Road and South Mountain Road
Government Mill Dam	Low	Intermediate	Good		On East Branch of theHousatonic River near Hubbard Avenue and Dalton Avenue
Gravesleigh Pond Dam	Low		Poor	Non-Jurisdictional	Sackett Brook off of East New Lenox Road
Lulu Pond	Low		Good	Non-Jurisdictional	Lulu Brook near Berry Pond Road
Onota Lake Dam	High	Large	Good		Onota Lake near Pecks Road
Parker Pond Dam	Low	Small	Fair		Lulu Brook near Churchill Street
Pecks Lower Pond Dam			Poor	Breached	Pecks Pond near Pecks Road
Pontoosuc Lake Dam	High	Large	Fair		Pontoosuc Lake near North Street and Hancock Road

Richmond Pond Dam	Significant	Large	Fair		Richmond Pond near Cloverdale Street
Tel Electric Pond Dam	Low	Intermediate	Poor		West Branch of the Housatonic River near Hawthorne Avenue
Wild Acres Pond #1 Dam	Low	Small	Fair		Wild Acres Conservation Area off of South Mountain Road
Wild Acres Pond #2 Dam	Low	Small	Fair		Wild Acres Conservation Area off of South Mountain Road

Source: (Office of Dam Safety, 2004)

Wildfire Risk

The City of Pittsfield has several areas that are deemed to have a higher risk of wildfires. These include Springside Park, South Mountain, Oak Hill and Pittsfield State Forest.

Springside Park has a high frequency of wildfires but low severity. The area has a buffer area separating the fuel from the residences, making the area relatively safe

South Mountain has a low frequency of wildfires but high severity. The steep terrain severely limits the ability of fire forces to operate safely. Steep gradients allow convected heat to dry out fuel load above the fire causing rapid flame spread up the side of the mountain. The few buildings on the property, one house and the concert hall could easily be endangered by a wind driven fire. This is a difficult area to fight wildland fires and the potential loss of these two buildings could easily exceed $1 million.

Oak Hill has a high frequency for wildfire and moderate severity. This is an area of heavy dense fuel load and very tough to move through. Fires of recent past have been deep into the woods, not endangering any structures.

Other Natural Hazards

Other than flooding and wildfire, the City of Pittsfield does not have any locations that are more susceptible to natural hazard events. Winter storms, wind and other natural hazards can all occur at any location in the city.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the City of Pittsfield, the city considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms), severe storms (thunderstorm, wind, hail, lightning) and dam failure; **moderate risk** from tornados, hurricane and tropical storms, wildfire and extreme temperatures; and **low risk** for drought, landslide, earthquakes and ice jams.

Town of Richmond Natural Hazard Risk Assessment

Community Profile

The town of Richmond is a pleasant rural community located in west central Berkshire County. It is bordered by Hancock and Pittsfield on the north; Lenox on the east; Stockbridge and West Stockbridge on the south; and Canaan, New York, on the west. Richmond exemplifies the pastoral beauty that the Berkshires are known for. Its rural charm and scenic beauty make Richmond a very desirable place to live. The town is primarily residential in nature with a few small retail establishments, two commercial orchards and a few small farms.

The town covers an area of 19.02 square miles. The town's population is 1,475, giving a density of 78 people/square mile. The town has experienced a slight decline in population since 1990 when the town reached its peak of 1,677 after 70 years of steady increase (US Census Bureau).

There are 657 occupied housing units, resulting in a household size of 2.2 people per household. The town has 196 seasonal units, comprising 21.7% of the housing stock (US Census Bureau). The predominant land uses in town are forests (68.7%), agriculture (15.3%) and residential (7.6%) (MassGIS, 2010). The town has its own school (Richmond Consolidated) for Pre-K through eighth, but sends its students to other communities for high school.

Critical Facilities

A list of the critical facilities within the community is shown in table 67. This data was taken from the communities CEMP and reviewed for accuracy by town officials. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 67. Critical Facilities – Richmond

	Name	***Address***
Fire	Richmond Fire Station	35 Firehouse Lane
Health Services	Richmond Fire Station	35 Firehouse Lane
Schools	Richmond Elementary School	Rte 41, 1831 State Road
Shelters	Richmond Elementary School	Rte 41, 1831 State Road
Special Needs Facilities	Richmond Elementary School	Rte 41, 1831 State Road
Public Works	Department of Public Works	53 Firehouse Lane
Town Offices	Richmond Fire Station	35 Firehouse Lane
Emergency Operations Center	Town Hall	1529 State Road
Alternate Emergency Operations Center	Richmond Elementary School	1831 State Road

Flood Prone Areas

Richmond has one large pond (Richmond) and a couple of smaller ponds, including Fairfield Pond (off of Lenox Road), Crystal Lake (off of Swamp Road) and Quarry Pond (Furnace Road). There are several

streams within the town, including Scace Brook, Sleepy Hollow Brook, Furnace Brook, Sherrill's Pond Brook, Lenox Mountain Brook, Cone Brook, and Fairfield Brook.

The town has several areas of concern related to flooding.

Lenox Mountain Road between Route 41 and Dublin Hill Road is floodprone. A box culvert will be in place soon.

Where West Road crosses Furnace Brook, the culvert is too small and causes flooding of the road. This flooding cuts off part of the road, limiting access to foot traffic. A temporary fix is in place, but for a permanent fix the culvert has to be replaced with a larger culvert and a new headwall.

Town Beach Road has a culvert on the inlet to Richmond Pond. This culvert and surrounding area has had problems with beaver activity. There are a series of large culverts which have been previously been blocked by beavers and the dam is getting very close to the road.

There is a house on Furnace Road in the vicinity of Quarry Pond that gets flooded periodically. The house often gets cut off due to flooding on the road, which prevents emergency responders from assisting with the house flooding.

Along the railroad tracks, there are many culverts that flood frequently and resulting in damage to the railroad track bed.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 859.5 acres of 100-year floodplain within the town. This amounts to 7.1% of the total town. Based on additional analysis, 10.1 acres (1.2%) of the floodplain are developed. This leaves 849.4 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw. Currently there are no commercial or industrial buildings within the floodplain, but there and 19 residential buildings (2.4%) within the floodplain (Table 68) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 69.

Table 68. Number of Buildings in Floodplain - Richmond

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
19	2.4%	0	0.0%	0	0.0%	19	2.4%

Source: (Berkshire Regional Planning Commission, 2010)

Table 69. Loss Estimate for Properties within the 100-year Floodplain ($000) - Richmond

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$10,084	$5,042	$0	$0	$0	$0	$15,125

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there has been one flood insurance claim in Richmond since 1978, however the total reimbursement of that claim was $0 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). Richmond does not have any critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

Richmond does not have any bridges over water that are classified by MassDOT as "structurally deficient" (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists five (5) dams in the Town of Richmond as shown in Table 70. Four of these dams are non-jurisdictional and not a risk to the town. The Richmond Iron Works dam is a low risk to the town, but the condition is unknown based on the DCR Office of Dam Safety database (Office of Dam Safety, 2004). The Sherrill Pond Dam is considered a low risk and is non-jurisdictional, but the town's highway garage and fire station are downstream of the dam and could fail if the dam fails. The privately owned dam for Richmond Pond is in the City of Pittsfield and is being minimally maintained. If this dam fails, it would not cause any flooding issues for Richmond, but would affect the value of many of homes in Richmond that are on the lake. Given these dams, the town considers itself to be of low risk for dam failure.

Table 70. Dams - Richmond

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Browne Pond Dam	Low			Non-Jurisdictional	Near Rossiter Road and West Road
Richmond Iron Works Dam	Low	Intermediate	Unknown		Furnace Brook near State Road
Rose Pond Dam	Low			Non-Jurisdictional	Near East Road and Lenox Road
Sherrill Pond Dam	Low			Non-Jurisdictional	Sherrill's Pond Brook off of State Road
Strong Pond Dam	Low			Non-Jurisdictional	Furnace Brook near West Road

Source: (Office of Dam Safety, 2004)

Wildfire

Richmond considers itself to be at a moderate risk for wildfire. Specifically, Perry's Peak and Lenox Mountain have a higher risk than the rest of the town.

Winter Storms

As with all Berkshire communities, Richmond is at a high risk for snow. Lenox Mountain, Reservoir Road and the East Slope are at a higher risk for snowfall than the remaining portions of town.

Other Natural Hazards

Other than the above hazards, the Town of Richmond does not have any locations in town that are more susceptible to natural hazard events. Wind, landslides, earthquakes and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Richmond, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) severe storms (thunderstorm, wind, hail, lightning) and hurricane and tropical storms; **moderate risk** from dam failure, tornados, wildfire, and extreme temperatures; and **low risk** for drought, landslide, earthquakes and ice jams.

Town of Sandisfield Natural Hazard Risk Assessment

Community Profile

The Town of Sandisfield covers an area of 52.93 square miles and is the largest town, geographically, in Berkshire County. The town's population is 915, giving a density of 17 people/square mile. The town has experienced an increase in population since 1930 when it was at 412 people (6/year), however it is far below its historic population high of 1,857 in 1800 (US Census Bureau).

There are 377 occupied housing units, resulting in a household size of 2.4 people per household. Sandisfield has 270 seasonal housing units, or 40.2% of the housing stock (US Census Bureau). The predominant land uses in town are forests (90.2%), agriculture (2.1%) and residential (1.7%) (MassGIS, 2010). The town belongs to the Farmington River Regional School District, sending it's elementary students to Farming River Elementary School in Otis and its older students to the Southern Berkshire Regional School District or the Lee School District.

Critical Facilities

A list of the critical facilities within the community is shown in table 71. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 71. Critical Facilities - Sandisfield

Type	*Name*	*Address*
Fire	Fire Station # 2	207 Sandisfield Road
	Fire Station # 1	79 South Main Street
Health Services	Fire Station # 1	79 South Main Street
	New Boston Nursing Home	Rte 57, 7 Sandisfield Road
	Fire Station # 2	207 Sandisfield Road
	Fire Station # 1	79 South Main Street
Town Offices	Town Hall Annex	66 Silverbrook Road
Emergency Operations Center	Sandisfield Fire Station # 2	207 Sandisfield Road
Alternate Emergency Operations Center	Sandisfield Fire Station # 1	79 South Main Street
Public Works	Town Garage	5 Silver Brook Road
Shelters	Fire Station # 2	207 Sandisfield Road
	Fire Station # 1	79 South Main Street
	Town Hall	7 Silver Brook Road
	New Boston Congregational Church	4 Sandisfield Road
	New Boston Inn	Rte 57, 101 North Main Street
Special Needs	New Boston Nursing Home	Rte 57, 7 Sandisfield Road
	Town Hall Annex-Senior Center	66 Sandisfield Road
	Town Hall	7 Silver Brook Road

Flood Prone Areas

The Town of Sandisfield is bordered on the east by the West Branch of the Farmington River. In addition to this, there are several additional streams, including Clam River, Miner Brook, Buck River, Silver Brook, and Cherry Brook. There are also several water bodies, including Upper and Lower Spectacle Pond, Abbey Lake, Atwater Pond, Abbey Lake and Lake Marguerite.

The town of Sandisfield has several flood prone areas.

Perry Road and North Beech Plain Road wash out frequently due to a poor drainage system.

A culvert on Hammertown Road is undersized and causes flooding and often results in washing out the road.

Flooding occurs on Sandisfield Road where Buck River crosses the road.

The Clam River crossing on River Road & Sandisfield (near the old town hall) is subject to flooding and is in poor condition.

Flooding occurs on Sandisfield Road between Silverbrook Road and Tannery Road.

The drainage system on Silverbrook Road, including culverts and drainage ditches, are inadequate in size to handle the water during heavy rains. This road is a dirt road and several years ago a steep part of the road washed out leading the town to make expensive repairs.

Sears Road below Clark Road has severe erosion and washout problems. The hillside is also sliding into the roadway.

New Hartford Road serves as a connector between the two state highways in town (Route 57 and Route 183) and receives a large volume of traffic because of that. The roadway has no drainage system installed and during heavy rains the water pools onto the roadway creating dangerous and sometimes impassible conditions. Due to this surface water, the roadway has begun to deteriorate.

Dodd Hill Road often washes out during heavy rains.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 1,562.8 acres of 100-year floodplain within the town. This amounts to 4.6% of the total town. Based on additional analysis, 75.7 acres (4.8%) of the floodplain are developed. This leaves 1487.1 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A, A1-30 and the regulatory floodways as shown on the FIRM. Currently there are 4 commercial buildings (44.4%), 1 industrial (25.0%) and 88 residential buildings (15.4%) within the floodplain (Table 72) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 73.

Table 72. Number of Buildings in Floodplain - Sandisfield

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
86	14.1%	4	44.4%	1	25.0%	91	14.6%

Source: (Berkshire Regional Planning Commission, 2010)

Table 73. Loss Estimate for Properties within the 100-year Floodplain ($000) - Sandisfield

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$31,416	$15,708	$2,601	$2,601	$155	$194	$52,676

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there has been a total of one flood insurance claim in Sandisfield since 1978, totaling $0 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). Sandisfield's Fire Station #1 on South Main Road is located within the floodplain.

Structurally Deficient Bridges over Waterways

Sandisfield has two (2) bridges over water that are classified by MassDOT as "structurally deficient". The two bridges are on Route 8 and on Clark Road Extension as they cross the West Branch of the Farmington River (MassDOT, 2010). The bridge on Route 8 is to be replaced in the spring/summer of 2011.

Hazard Potential of Dams

The DCR Office of Dam Safety lists 16 dams in the Town of Sandisfield as shown in Table 74. Five (5) of these dams are of significant hazard, but all of them are in Fair to Good condition. These five dams are North Silver Lake Dam, Clam Lake Dam, West Lake Dam, Abbey Lake Dam and South Silver Dam. There are no dams in Sandisfield that are classified as poor or unsafe condition (Office of Dam Safety, 2004). The Clam Lake Dam is of concern to the town and has led the town to evacuate part of the town downstream of it due to the concern of a breach during a heavy rain storm several years ago. There are four dams where there is no condition given in the DCR Office of Dam Safety database, Pelton Dam, Liberman's Pond Dam, Riiiska Brook Dam, and Bauer Dam, so it is not possible to determine their risk.

Table 74. Dams - Sandisfield

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Abbey Lake	High	Large	Good		Abbey Lake on Buck River
Atwater Pond Dam	Low	Intermediate	Unknown		Atwater Pond off

					of Sullivan Road
Bauer Dam	Low	Unknown	Unknown	Non-Jurisdictional	Off of South Sandisfield Road
Camp Woodcrest Dam	Low	Intermediate	Fair		Off of Sears Road
Clam Lake Dam	High	Large	Fair		Clam River off of Hamilton Road
Guilder Pond Dam	Low	Intermediate	Good		Clam River near Town Hill Road
Liberman'S Pond Dam	Low	Unknown	Unknown	Non-Jurisdictional	South Branch of Silver Brook near Fox Road
Lower Spectacle Pond	Low	Large	Fair		Lower Spectacle Pond off of Cold Spring Road
Morley Swamp Dam	Low	Intermediate	Fair		Morley's Swamp near Lower West Street and Stump Road
North Silver Lake Dam	High	Large	Fair		Silver Brook near Silverbrook Road
Otis Woodland Club Aka Camp Sequena	Significant	Intermediate	Good / Fair		Owl Pond near Lakeshore Drive
Pelton Dam	Low	Intermediate	Unknown		Off of Roberts Road
Riiska Brook Dam	Low	Intermediate	Unknown		Riiska Brook near Rood Hill Road
South Silver Dam	High	Intermediate	Good		South Branch of Silver Brook near Fox Road
Upper Spectacle Pond Dam	Low	Intermediate	Fair		Upper Spectacle Pond near Webb Road
West Lake Dam	High	Intermediate	Good		West Lake off of Lower West Street

Source: (Office of Dam Safety, 2004)

Winter Storms

The town considers itself to be at a high risk for winter storms, especially heavy snow and ice. While the entire town is subject to heavy snow and ice, the South Sandisfield and any area over 1400 feet tend to get heavier snows then the rest of the town. This includes areas around Route 8 between New Boston and Otis as well as roads leading to South Sandisfield from New Boston.

High Winds

Sandisfield also considers itself to be at a high risk for severe storms, mostly high winds. The higher elevations in town as well as the Route 8 corridor north of Route 57 tend to see higher winds then the rest of the community. The Route 8 area gets a lot of trees falling onto the power lines due to the high winds.

Wildfire

The majority of town is forested, but due to the climate and forest community types, there is a low risk for wildfire. However, the higher elevations that are forested are at a higher risk due to wind-driven fires.

Other Natural Hazards

Other than the above mentioned hazards, the Town of Sandisfield does not have any locations in town that are more susceptible to natural hazard events. Landslides, earthquakes and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Sandisfield, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) severe storms (thunderstorm, wind, hail, lightning) and dam failure; **moderate risk** from hurricane and tropical storms, extreme temperatures and drought; and **low risk** for tornados wildfire, landslide, earthquakes and ice jams.

Town of Sheffield Natural Hazard Risk Assessment

Community Profile

The Town of Sheffield covers an area of 48.52 square miles. The town's population is 3,257, giving a density of 67 people/square mile. The town has experienced a steady increase in population since 1920 when it was 1,435, an increase of 1,862, or over 20 people/year (US Census Bureau).

There are 1,424 occupied housing units, resulting in a household size of 2.3 people per household. The town has 244 seasonal housing units, or 13.9% of the total housing units (US Census Bureau). The predominant land uses in town are forests (65.9%), agriculture (18.2%) and residential (5.4%) (MassGIS, 2010). The town belongs to the Southern Berkshire Regional School District. One of the elementary schools (Undermountain) and the high school (Mount Everett) are both in Sheffield.

Critical Facilities

A list of the critical facilities within the community is shown in table 75. This data was taken from the community's CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 75. Critical Facilities - Sheffield

	Name	***Address***
Fire	Sheffield Fire Department	65 Depot Square
Police	Sheffield Police Department	10 South Main Street
Emergency Operations Center	Sheffield Police Department	10 South Main Street
Alternate Emergency Operations Center	Sheffield Fire Department	65 Depot Square
Town Offices	Town Hall	21 Depot Square
Schools	Berkshire School	245 Undermountain Road
	Undermountain Elementary School	491 Berkshire School Road
	Mt. Everett Regional School	491 Berkshire School Road
Shelters	Berkshire School	245 Undermountain Road
	Mt. Everett Regional School	491 Berkshire School Road
	American Legion Post #340	619 Sheffield Plain Road
	Trinity United Methodist Church	1156 Ashley Falls Road
	Our Lady of the Valley	99 Maple Avenue
	Undermountain Elementary School	491 Berkshire School Road
	Bushnell Sage Memorial Library	10 South Main Street
	Sheffield Senior Center	25 Cook Road
Special Needs Facilities	Mt. Everett Regional High School	491 Berkshire School Road
	Undermountain Elementary School	491 Berkshire School Road
	Berkshire School	245 Undermountain Road
	Sheffield Senior Center	25 Cook Road
	3 Dewey Way-Low Income Housing	Salisbury Road
Utilities	Sheffield Water Company	1080 Undermountain Road
	Sheffield Garage (Mass DOT)	Rte 7
	Town Garage	35 Pike Road

Flood Prone Areas

Sheffield s bisected by the Housatonic River, which meanders north to south through the town. The Housatonic floods occasionally, leading to a rich fertile plain through the center of town, where the majority of its agricultural uses exist. There are several streams leading to the Housatonic, including Willard Brook, Bear Rock Stream, Dry Brook, Schenob Brook, Soda Creek, Ironwork Brook, and the Konkapot River. There are also several lakes and ponds, including Mill Pond, Three Mile Pond, Davis Pond, Harmon Marsh Pond, Spurr Lake, Combes Pond, Fawn Lake and Berkshire Lake.

The Town of Sheffield has several flood prone areas.

Sections of Lime Kiln Road have washed out in the past. A relief culvert was added which resulted in an improvement, but further relief culverts are needed.

The Housatonic River is eating away at the riverbank and Rannapo Road. The bank needs rip rap to prevent further damage to the road. The town is in the process of funding this with Chapter 90 road money.

Route 7 north of South Egremont Road experiences flooding. MassDOT is working on preventing further flooding to this area.

In early March, 2011, there was a flooding issue at Rannapo and Weatogue Roads, just east of Rannapo and Cooper Hill Roads. There was six feet of water over the road, destroying it. A relief culvert and reengineering of the inlet stream into the river is needed. This area had experienced minimal flooding previously.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 7,016.1 acres of 100-year floodplain within the town. This amounts to 22.6% of the total town. Based on additional analysis, 91.4 acres (1.3%) of the floodplain are developed. This leaves 6924.7 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw covering all areas within the boundaries of the 100-year floodplain as shown on the FIRM. Currently there are 19 commercial buildings (20.7%), 6 industrial (28.6%) and 35 residential buildings (2.7%) within the floodplain (Table 76) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 77.

Table 76. Number of Buildings within Floodplains

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
35	2.5%	19	21.8%	6	20.7%	60	4.0%

Source: (Berkshire Regional Planning Commission, 2010)

Table 77. Loss Estimate for Properties within the 100-year Floodplain ($000) - Sheffield

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$13,460	$6,730	$11,119	$11,119	$3,107	$3,883	$49,416

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 6 flood insurance claims in Sheffield since 1978, totaling $34,681 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). The town does not have any critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

Sheffield has two bridges over water that are classified by MassDOT as "structurally deficient". This includes Kelsey Road where it crosses Schenob Brook, and Route 7A as it crosses the Housatonic River (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists six (6) dams in the Town of Sheffield as shown in Table 78. None of these dams are of significant hazard. One dam, Combes Pond Dam is in an unsafe condition, but it is a non-jurisdictional dam, so it likely won't cause significant damage if it fails (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low risk for dam failure.

Table 78. Dams - Sheffield

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Berkshire Trout Pond	Low	Small	Fair		Berkshire Lake off of Undermountain Road
Combes Pond Dam	Low		Unsafe	Non-Jurisdictional	Willard Brook off of Giberson Road
Fawn Lake Dam	Low		Fair	Non-Jurisdictional	Willard Brook by Berkshire School Road
Hoyte Dam	Low	Small	Fair		Off of East Road
Mill Pond Dam	Significant	Large	Fair		Mill Pond off of Cooks Road
Three Mile Pond	Significant	Large	Fair		Three Mile Pond off of County Road

Source: (Office of Dam Safety, 2004)

Landslides

The town experiences small landslides in a few locations.

The banks on County Road are right against the road and periodically cause landslides.

In the area around Weatogue Road, there is a danger of landslides. The Trustees of Reservations was working on resolving this issue.

Other Natural Hazards

Other than flooding and landslides, the Town of Sheffield does not have any locations in town that are more susceptible to natural hazard events. Winter storms, wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Sheffield, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms), severe storms (thunderstorm, wind, hail, lightning) and hurricane and tropical storms; **moderate risk** from dam failure, tornados, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of Stockbridge Natural Hazard Risk Assessment

Community Profile

The Town of Stockbridge is located in the heart of the southern Berkshire Hills. It is bordered by the towns of Lee, Lenox, West Stockbridge Richmond and Great Barrington. It is a town with a rich cultural past, a beautiful natural setting and a spirit of embracing life's pleasures. The town has a diverse landscape with elevations rising to more than 1,400 feet and a wide valley for golf courses and agricultural enterprises. It is a town with rolling hills and deep valleys cut by glaciers. The pleasant forests, open fields, cool streams, deep ponds, and nurturing wetlands make this town a very desirable place to live and create.

The Town of Stockbridge covers an area of 23.67 square miles. The town's population is 1,947, giving a density of 82 people/square mile. The town has experienced a declining population since 1990, when it was 2,402, a loss of almost 23 people/year (US Census Bureau).

There are 919 occupied housing units, resulting in a household size of 2.1 people per household. Stockbridge has a large seasonal population as evident through 641 seasonal housing units, or 37.9% of the total housing units (US Census Bureau). The predominant land uses in town are forests (67.0%), residential (7.0%), and agriculture (5.5%) (MassGIS, 2010). The town belongs to the Berkshire Hills Regional School District, sending its students to Great Barrington (Muddy Brook Elementary, Monument Valley Middle, and Monument Mountain High).

Critical Facilities

A list of the critical facilities within the community is shown in table 79. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 79. Critical Facilities - Stockbridge

	Name	***Address***
Fire	Fire Station 1	1 East Street
	Fire Station 2	11 Interlaken Road
	Fire Station 3	19 Rte 183, Glendale Road
Police	Police Department	50 Main Street
Health Services	Fire Station 1	1 East Street
	Fire Station 2	11 Interlaken Road
	Fire Station 3	19 Rte 183, Glendale Road
Town Offices	Town Offices	50 Main Street
Emergency Operations Center	Town Offices	50 Main Street
Alternate Emergency Operations Center	Fire Station Central Fire	1 East Street
Public Works	Waste Water Treatment Plant	1 W. Stockbridge Road
	Town Garage	1 W. Stockbridge Road
Schools	Riverbrook Residence	Ice Glen Road

	Berkshire Country Day School	55 Interlaken Road
	IS 183	13 Willard Hill
Shelters	Town Hall	6 Main Street
	Town Offices	50 Main Street
	First Congregational Church	4 Main Street
	Riggs Center	25 Main Street
Special Needs Facilities	Heaton Court, Stockbridge Housing Authority	Pine Street
	Riverbrook School	Ice Glen Road
	St. Paul Episcopal Church	29 Main Street
	Stockbridge House	7 Pine Street
	Austin Riggs Residence Building	13 Main Street
	Austin Riggs Medical Building	23-27 Main Street
	Austin Riggs Montesorri	25 Main Street
Camps	Camp Mahkeenac	6 Hawthorne Road

Flood Prone Areas

The Housatonic River traverses through town traveling from Lee in the east to Great Barrington in the south. The river is fed by several streams in town, including the Konkapot Brook, Kampoosa Brook, Lily Brook, Larrywaug Brook and Mohawk Brook. In addition to the rivers, there are several water bodies, including Stockbridge Bowl, Lily Pond, Lake Averic, Mohawk Lake, Agawam Lake and Clark Pond.

The town has several areas that are prone to flooding.

Flooding along the Housatonic River occurs every spring due to the spring melt. This includes portions of Main Street just east of the river crossing, the field adjacent to South Street and Park Street and the area around Glendale Road (Route 183) and Dugway Road.

The Konkapot River periodically floods Goodrich Street.

Flooding related to beavers occurs on Goodrich Street around the intersection with the Konkapot Brook, Old Colonial Road, Bean Hill Road and Rattlesnake Mountain Road.

Bean Hill Road, Ice Glen Road and Rattlesnake Mountain Road all experience washing out of the road during heavy rain.

A portion of Main Street has an undersized stormwater system that has caused problems periodically.

There is an undersized culvert on Route 102 at Lincoln Lane which causes Route 102 to flood.

There is a mountain to the north of Route 102 which has water flowing off of it onto Route 102. There culvert in that location is too small and causes the water to create gullies along the road.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 2,246.3 acres of 100-year floodplain within the town. This amounts to 14.8% of the total town. Based on additional analysis, 63.3 acres (2.8%) of the floodplain are developed. This leaves 2183.0 acres that are potentially

developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30 along with the regulatory floodways shown on the FIRM. Currently there are 19 commercial buildings (20.7%), 6 industrial (28.6 %) and 35 residential buildings (2.7%) within the floodplain (Table 80) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 81.

Table 80. Number of Buildings in Floodplain - Stockbridge

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
51	3.7%	10	26.3%	5	55.6%	66	4.7%

Source: (Berkshire Regional Planning Commission, 2010)

Table 81. Loss Estimate for Properties within the 100-year Floodplain ($000) - Stockbridge

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$28,937	$14,469	$12,684	$12,684	$2,137	$2,671	$73,582

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 10 flood insurance claims in Stockbridge since 1978, totaling $77,936 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009).

The waste water treatment plant is located within the 100-year floodplain. Other facilities, such as the maintenance yard, transfer station and offices are at the same location as the waste water treatment plant, but do not appear to be in the floodplain.

Structurally Deficient Bridges over Waterways

Stockbridge does not have any bridges over water that are classified by MassDOT as “structurally deficient” (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists four dams in the Town of Stockbridge as shown in Table 82. One of these dams is of significant hazard, Stockbridge Bowl Dam, but is in fair condition. Two dams, Lakin Pond Dam and Lake Averic Dam are in poor or unsafe condition, but are classified as a low hazard (Office of Dam Safety, 2004). The town is currently engaged in engineering studies to fix the Lake Averic dam. The Glendale Dam, owned by Littleville Power Company does not have an inundation plan or emergency

management plan and the town encourages the company to put a plan in place. Given these dams, the town considers itself to be of low-moderate risk for dam failure.

Table 82. Dams - Stockbridge

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Echo Lake Or Lake Averic	Low	Intermediate	Unsafe		Lake Averic
Glendale Dam	Significant	Large	Fair		Housatonic River off of Route 183
Lakin Pond Dam	Low	Unknown	Poor	Non-jurisdictional	On Yale Hill off of Route 102
Stockbridge Bowl Dam	High	Large	Good		Stockbridge Bowl

Source: (Office of Dam Safety, 2004)

Wildfires

Stockbridge has a low risk to wildfire due to the forest types and climate, however there has been a number of wildfires along the railroad tracks over the last few years. Besides the railroad tracks, all areas of town are at a similar risk to wildfire.

Other Natural Hazards

Other than flooding and wildfire, the Town of Stockbridge does not have any locations in town that are more susceptible to natural hazard events. Winter storms, wind and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Stockbridge, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of Tyringham Natural Hazard Risk Assessment

Community Profile

The Town of Tyringham is located in south central Berkshire County. It is bordered by Becket and Otis on the east; Monterey on the south; Great Barrington on the west and Lee on the north. It is a rural, residential community with steep, forested hillsides rising up from Tyringham Valley through which Hop Brook, the town's main stream, flows. The valley with its pastureland and historic farmhouses is as picturesque as any in New England.

The Town of Tyringham covers an area of 18.85 square miles. The town's population is 327, giving a density of 17 people/square mile. The town has experienced a steady population of around 340 since 1980, yet lower than its historic high of 821 in 1850 (US Census Bureau).

There are 138 occupied housing units, resulting in a household size of 2.4 people per household. Tyringham has 131 seasonal housing units, or 46.8% of its total housing units (US Census Bureau). The predominant land uses in town are forests (82.9%), agriculture (7.5%) and residential (2.0%) (MassGIS, 2010).

Critical Facilities

A list of the critical facilities within the community is shown in table 83. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 83. Critical Facilities - Tyringham

	Name	***Address***
Fire	Fire Station	100 Main Road
Police	Police Department	116 Main Road
Health Services	Fire Station	100 Main Road
Town Offices	Town Hall	116 Main Road
	Town Offices	2 Church Road
Emergency Operations Center	Town Hall	116 Main Road
Alternate Operations Center	Fire Station	100 Main Road
Public Works	Town Garage	
Shelters	Fire Station	100 Main Road
	Town Hall	116 Main Road
Special Needs	Sisters of Visitation	Beach Road

Flood Prone Areas

Tyringham has fewer streams and water bodies then most Berkshire communities, but they are still impacted by them. The streams include Hop Brook, Merry Brook, Crystal Brook and Camp Brook Cooper Brook. The water bodies include part of Goose Pond, Shaker Pond, South House Pond, Sodom Pond, and a number of approximately 1 acre plus beaver ponds..

The town has several floodprone areas.

Goose Pond Road, which is partially a dirt road, has beaver problems at the Copper Brook culvert. The plugging of the culvert by the beavers has caused the road to flood.

Beavers around Beach Road have caused the water to approach the bridge. There is concern of damage to the bridge and flooding due to the beavers.

There is a beaver dam in a wetland north of Main Road. If that dam breeches, land all the way down to Main Road will be flooded.

There are beaver dams throughout the floodplain of Hop Brook, causing high water in some locations and low water flows in other locations.

There are a number of other beaver ponds throughout the surrounding hillsides that when breached cause flash flooding conditions through the center of town.

The state recently replaced a bridge on Breakneck Road. This new bridge is too low and often floods.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 717.0 acres of 100-year floodplain within the town. This amounts to 5.9% of the total town. Based on additional analysis, 19.3 acres (2.7%) of the floodplain are developed. This leaves 697.7 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting Zone A's as shown on the FIRM. Currently there are no commercial or industrial buildings in town, but 22 residential buildings (7.8%) within the floodplain (Table 84) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 85.

Table 84. Number of Buildings in Floodplain - Tyringham

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
22	7.8%	0	0.0%	0	0.0%	22	7.8%

Source: (Berkshire Regional Planning Commission, 2010)

Table 85. Loss Estimate for Properties within the 100-year Floodplain ($000) - Tyringham

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$13,787	$6,893	$0	$0	$0	$0	$20,680

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been no flood insurance claims in Tyringham since 1978 (MEMA, 2010). The town is very concerned that a number of their critical facilities are within the Hop Brook floodplain. This includes the fire station, maintenance yard and town offices, which includes the police station.

Structurally Deficient Bridges over Waterways

Tyringham has no bridges over water that are classified by MassDOT as "structurally deficient" (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists three (3) dams in the Town of Tyringham as shown in Table 86. One of these dams is of significant hazard, Goose Pond Dam, but is in good condition (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low risk for dam failure.

Table 86. Dams - Tyringham

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Goose Pond Dam	High	Large	Good		Goose Pond off of Lakeside Drive
Schell Dam	Low	Unknown	Unknown	Non-jurisdictional	Hop Brook off of Sodem Road
Shaker Pond Dam	Significant	Intermediate	Good		Shaker Pond off of Jerusalem Road
South House Pond Dam	Unknown	Unknown	Unknown		Off of Brace Road

Source: (Office of Dam Safety, 2004)

Winter Storms

The entire town considers itself to be at risk for winter storms, however the area around Goose Pond, and the hills above 1500' around Monterey and Otis tend to be more susceptible for winter storms.

Other Natural Hazards

Other than flooding and winter storms, the Town of Tyringham does not have any locations in town that are more susceptible to natural hazard events. High winds, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Tyringham, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, extreme temperatures and wildfires; and **low risk** for drought, landslide, earthquakes and ice jams.

Town of Washington Natural Hazard Risk Assessment

Community Profile

The Town of Washington covers an area of 38.8 square miles. The town's population is 538, giving a density of 14 people/square mile. The town has experienced a steady population of around 540 since 1980, up from its low of 222 in 1930 but down from its historic peak of 953 in 1850 (US Census Bureau).

There are 225 occupied housing units, resulting in a household size of 2.4 people per household (US Census Bureau). The predominant land uses in town are forests (90.4%), agriculture (1.1 %) and residential (1.0%) (MassGIS, 2010). The town belongs to the Central Berkshire Regional School District, sending its elementary students to Becket (Becket Washington Elementary) and its middle and high school students to Dalton (Nessacus Middle, Wahconah High).

Critical Facilities

A list of the critical facilities within the community is shown in table 87. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 87. Critical Facilities - Washington

Type	***Name***	***Address***
Police	Police Department	Summit Hill Road
Town Offices	Town Hall	8 Summit Hill Road
Emergency Operations Center	Town Hall	8 Summit Hill Road
Alternate Emergency Operations Center	Department of Public Works	South Washington State Road
Public Works	Department of Public Works	South Washington State Road

Flood Prone Areas

Washington has several water bodies in town. These include Farnham Reservoir, Clapp Pond, Sandwash Reservoir, Ashley Lake and Ashley Reservoir which are all part of the City Of Pittsfield water supply. In addition to these, Washington has Felton Lake, Halfway Lake, Schoolhouse Lake, October Mountain Lake, Finerty Pond, Muddy Pond and Benson Pond. There are also several streams, including Ashley Brook, Roaring Brook, Washington Mountain Brook, Shaker Brook, Watson Brook, Hathaway Brook, Depot Brook, Savery Brook and Coles Brook.

Washington has several areas of concern for flooding.

Frost Road is an area of high concern. The steepness and topography of surrounding land of Frost Road is such that when the small bridge floods, the roadbed is turned into a river which floods across Route 8 and makes Route 8 impassable during heavy rain events.

Cross Place Road is also of high concern. Cross Place Road crosses Depot Brook and another small body of water. There are two bridges and a small culvert. The culvert is caved in and the bridges are too small to handle the water from heavy rains. This isolates 8-10 homes from the rest of the town and emergency service vehicles.

The upper part of Sargent Road is constantly washing out and requires regular maintenance.

Cross Place Road is a high concern as the headwalls are caving into the brook and the bridges are too small.

Schulze Road occasionally washes out.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 1,346.3 acres of 100-year floodplain within the town. This amounts to 5.4% of the total town. Based on additional analysis, 9.2 acres (0.7%) of the floodplain are developed. This leaves 1337.1 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30. Currently there are no commercial buildings, one industrial (33%) and 3 residential buildings (1%) within the floodplain (Table 88) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 89.

Table 88. Number of Buildings in Floodplain - Washington

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
3	1.2%	0	0.0%	1	33.3%	4	1.6%

Source: (Berkshire Regional Planning Commission, 2010)

Table 89. Loss Estimate for Properties within the 100-year Floodplain ($000) - Washington

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$797	$399	$0	$0	$76	$95	$1,368

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of no flood insurance claims in Washington since 1978 (MEMA, 2010). The town does not have any critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

Washington has one bridge over water that is classified by MassDOT as “structurally deficient”. This bridge is on Lower Valley Road as it crosses Depot Brook (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists 12 dams in the Town of Washington as shown in Table 90. Six (6) of these dams are of significant hazard, Farnham Reservoir, Ashley Lake Dam, Schoolhouse Lake Dam, October Mountain Lake Dam and Dike, Washington Mountain Lake Dike and Washington Mountain Lake Dam. All of these are in fair to good condition. There are two dams, Coles Brook Pond Dam and Finerty Pond Dam that are in poor condition, but are a low hazard risk (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of moderate risk for dam failure.

Table 90. Dams - Washington

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Ashley Lake Dam	High	Large	Fair		Ashley Lake off of New Lenox Road
Carl Peer Pond Dam	Low	Unknown	Unknown	Non-jurisdictional	Off of Valley Road
Coles Brook Pond Dam	Low	Intermediate	Poor		Coles Brook off of Middlefield Road
Eden Glen Pond Dam	Low	Small	Fair		Depot Brook off of Frost Road
Farnham Reservoir Dam	High	Large	Fair		Mill Brook off of Lenox-Whitney Place Road
Felton Lake Dam	Low	Intermediate	Fair		Off of Felton Pond Road
Finerty Pond Dam	Low	Intermediate	Poor		On Washington Mountain Brook off of County Road
October Mountain Lake Dam And Dike	High	Large	Good		October Mountain Lake off of County Road
Sandwash Dam	Low	Large	Good		Sandwash Reservoir on Roaring Brook
Schoolhouse Lake Dam	High	Large	Good		Schoolhouse Lake off of County Road
Washington Mountain Lake Dam	High	Large	Good		Washington Mountain Lake off of West Branch Road

Washington Mt. Lake Dike (Navin Rd.)	High	Large	Good		Washington Mountain Lake off of West Branch Road

Source: (Office of Dam Safety, 2004)

Wildfire

The Town of Washington considers itself to be at a low risk for wildfires, however there is a higher risk around the intersection of West Branch Road and Lenox Whitney Place Road as well as along the CSX railroad.

Snow

The entire town is at a high risk for winter storms and heavy snow, however a few areas have an even higher risk than the rest of town. These areas are the Washington Mountain Road / West Branch Road area, Washington Mountain Road, Route 8 and Beach Road area, Beach Road, Summit Hill Road and Upper Valley Road area and parts of Summit Hill Road. These areas tend to have higher winds and thus more blowing snow and snow drifts.

High Wind

Washington gets high winds throughout town due to it hilly terrain, however higher winds exist around the town garage on South Washington State Road. The areas mentioned above for heavy snow also tend to get higher winds.

Other Natural Hazards

Other than the above mentioned hazards, the Town of Washington does not have any locations in town that are more susceptible to natural hazard events. Severe storms, tornados and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Washington, the town considers itself to be at a **high risk** for winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from flooding, dam failure, tornados, hurricane and tropical storms, extreme temperatures and drought; and **low risk** for wildfire, landslide, earthquakes and ice jams.

Town of Williamstown Natural Hazard Risk Assessment

Community Profile

The Town of Williamstown covers an area of 46.83 square miles. The town's population is 7,754, giving a density of 166 people/square mile. The town has experienced a declining population since 1980, down from 8,741 (US Census Bureau).

There are 2,542 occupied housing units, resulting in a household size of 3.1 people per household (US Census Bureau). The predominant land uses in town are forests (73.7%), agriculture (12.9%) and residential (6.4%) (MassGIS, 2010). The town belongs to the Mount Greylock Regional School District, with its students attending Williamstown Elementary and Mount Greylock High, both in Williamstown.

Critical Facilities

A list of the critical facilities within the community is shown in Table 91. This data was taken from the communities CEMP and reviewed for accuracy by the town. These facilities were digitized into GIS and used for determining vulnerability to the various hazards.

Table 91. Critical Facilities - Williamstown

	Name	***Address***
Fire	Fire Station	34 Water Street
Police	Police Department	31 North Street
Health Services	Village Ambulance Service	30 Water Street
	Williamstown Medical Associates	197 Adams Road
	Williamstown Commons	25 Adams Road
	Village Ambulance Service	30 Water Street
	Williams College Health Center	105 The Knolls
Town Offices	Town Hall	31 North Street
Emergency Operations Center	Williamstown Municipal Building	31 North Street
Alternate Emergency Operations Center	Department of Public Works	675 Simonds Road
Public Works	Hoosac Water Quality District	667 Simonds Road
	Williamstown Water Department	675 Simonds Road
	Department of Public Works	675 Simonds Road
Schools	Mt. Greylock Regional High School	1781 Cold Spring Road
	Williamstown Elementary School	115 Church Street
	Pine Cobble School	163 Gale Road
	Buxton School	291 South Street
Shelters	Mt. Greylock Regional High School	1781 Cold Spring Road
	Sweet Brook Continuing Care	1561 Cold Spring Road
	Williamstown Elementary School	115 Church Street
	Towne Field House	82 Latham Street
	Williamstown Commons	25 Adams Road
Special Needs Facilities	Williamstown Elementary School	115 Church Street
	Williams College	60 Latham Street

	Pine Cobble School	163 Gale Road
	The Spruces Man. Housing Community	60 Main Street
	Williamstown Commons	25 Adams Road
	Buxton School	291 South Street
	Sweetwood Continuing Care Center	1611 Cold Spring Road
	Mt. Greylock Regional High School	1781 Cold Spring Road
	Williamstown Cooperative Nursery	34 New Ashford Road
	Proprietor's Fields	118 Church Street
	Sweet Brook Continuing Care	1561 Cold Spring Road
	Meadowvale	35 Adams Road
	Williamstown Community Day Care	777 Main Street
	Williams College Children Center	51 Park Street
	Turning Point Halfway House	45 Adams Road
	Williamstown Youth Center	270 Cole Avenue

Flood Prone Areas

The Hoosac River travels through town, from North Adams in the east to Vermont in the north. There are a number of streams that lead into the Hoosac, including the Green River, Roaring Brook, Hopper Brook, Money Brook, Sweet Brook, Flora Glen Brook, Hemlock Brook, Birch Brook and Ford Glen Brook. There are a few small ponds in Williamstown, including Williamstown Reservoir and Bridges Pond.

The major flooding concern for Williamstown is at the Spruces Trailer Park, which is in the floodplain of the Hoosic River. The confluence of the Green River with the Hoosic River also has periodic flooding problems.

Flooding Vulnerability Assessment

An analysis of the FIRM flood hazard area maps indicates that there is a total of 1,090.8 acres of 100-year floodplain within the town. This amounts to 3.6% of the total town. Based on additional analysis, 138.4 acres (12.7%) of the floodplain are developed. This leaves 952.4 acres that are potentially developable under current zoning (Berkshire Regional Planning Commission, 2010). The town does currently have a floodplain bylaw, protecting zones A and A1-30. Currently there are 39 commercial buildings (34.2%), 3 industrial (20.0%) and 375 residential buildings (16.8 %) within the floodplain (Table 92) (Berkshire Regional Planning Commission, 2010). The percentage of buildings is then multiplied by the total property value, as determined from the Department of Revenue, to come up with a potential loss. In addition to this, an additional percentage of the value was added to represent the contents of the properties. This can be found in Table 93.

Table 92. Number of Buildings in Floodplain - Williamstown

Buildings in Floodplain							
Residential		Commercial		Industrial		Total	
No.	Percent	No.	Percent	No.	Percent	No.	Percent
375	16.9%	39	33.1%	3	20.0%	417	17.8%

Source: (Berkshire Regional Planning Commission, 2010)

Table 93. Loss Estimate for Properties within the 100-year Floodplain ($000) - Williamstown

Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Property Value)	Industrial Property	Industrial Contents (125% Property Value)	Total Loss Estimate
$159,864	$79,932	$31,576	$31,576	$2,494	$3,117	$308,559

Source: (Berkshire Regional Planning Commission, 2010)

According to data provided to BRPC from MEMA, there have been a total of 11 flood insurance claims in Williamstown since 1978, totaling $51,128 (MEMA, 2010). There are no repetitive flood loss properties within the town (MEMA, 2009). The town does not have any critical facilities within the floodplain.

Structurally Deficient Bridges over Waterways

Williamstown does not have any bridges that are considered structurally deficient (MassDOT, 2010).

Hazard Potential of Dams

The DCR Office of Dam Safety lists eight (8) dams in the Town of Williamstown as shown in Table 94. One of these dams is of significant hazard, Williamstown Reservoir Dam, but is in fair condition. Two dams are in poor condition, Haley Pond Dam, which is a low hazard risk, and Lower Hopkins Pond Dam, which is a significant risk (Office of Dam Safety, 2004). Given these dams, the town considers itself to be of low-moderate risk for dam failure.

Table 94. Dams - Williamstown

Name	Hazard Code	Size Class	Inspection Condition	Other	Location
Bee Hill Dam	Low		Fair	Breached	
Haley Pond Dam	Low	Small	Poor		Hemlock Brook off of Torrey Woods Road
Harmond Pond Dam	Low	Intermediate	Unknown		Sweet Brook by Harmon Pond Road
Hoyt Pond Dam	Low	Small	Unknown		
Lower Hopkins Pond Dam	Significant	Intermediate	Poor		Ford Glen Brook by Buckley Street
Nichols Pond Dam	Low	Small	Unknown		Burton Brook by Porter Street
Taconic Park Dam	Low	Small	Fair		Hemlock Brook by Taconic Trail

Williamstown Reservoir Dam	High	Intermediate	Fair		Williamstown Reservoir on Pattison Road

Source: (Office of Dam Safety, 2004)

Winter Storms

The areas of higher elevations (Taconic Trail, Hopper area, Upper Henderson and White Oaks Rd., etc.) do tend to receive somewhat higher snowfall amounts than the Hoosic and Green River Valleys, especially during marginal temperature storms, but in general, all areas in town are equally vulnerable.

Other Natural Hazards

Other than flooding and winter storms, the Town of Williamstown does not have any locations in town that are more susceptible to natural hazard events. High wind, wildfire and other natural hazards can all occur at any location in town.

Natural Hazard Risk Assessment

Based on the hazards identified in this plan and the assessment of the risks of the Town of Williamstown, the town considers itself to be at a **high risk** for flooding, winter storms (blizzards / snow / ice storms) and severe storms (thunderstorm, wind, hail, lightning); **moderate risk** from dam failure, tornados, hurricane and tropical storms, and extreme temperatures; and **low risk** for wildfire, landslide, earthquakes, drought and ice jams.

Existing Protections

This Existing Protections section has been redone from the 2005 plan to better correspond to the Hazard Mitigation Plan Guidance and to incorporate new data as well as information fromadditional communities.

There are a number of existing measures being taken by local municipalities to mitigate the impacts of natural hazards. These measures include planning measures such as floodplain protection regulations. It also includes structural measures such as flood control chutes, dams and storm drain systems. The existing measures can be found in tables 96-114.

Three specific items, floodplain protection, building codes and structural mitigation are discussed below

Participation in the National Flood Insurance Program

The majority of the communities in the Berkshires participate in the National Flood insurance Program (NFIP). Of the 32 Berkshire communities, 27 communities participate and the remaining five, Florida, Mount Washington, Peru, Savoy and Windsor do not participate. These five do not participate at this time, but have expressed interest. These communities have very limited floodplains in their communities; leading to them not previously participated.

Of the 27 NFIP communities within the Berkshires, four of them do not have floodplain bylaws. These communities, Hancock, Hinsdale, Monterey and New Marlborough have the creation of a floodplain bylaw as a high priority within their action plans. Many of these communities that do not have bylaws are hilltowns, where the streams tend to be of a low order and the floodplain area within town is relatively small in scale.

Table 95. Community Participation in NFIP

Community	Initial FHBM	Initial FIRM Date	Current FIRM Date	Date Entered NFIP
Adams	11/5/1976	8/1/1983	8/1/1983	8/1/1983
Becket	12/31/1976	8/5/1991	8/5/1991	8/5/1991
Dalton	9/20/1974	7/5/1982	7/5/1982	7/5/1982
Egremont	6/28/1974	6/15/1982	6/15/1982	6/15/1982
Great Barrington	10/18/1974	7/19/1982	7/19/1982	7/19/1982
Hancock	6/28/1974	6/1/1982	6/1/1982	6/1/1982
Lee	3/22/1974	6/1/1982	6/1/1982	6/1/1982
Lenox	6/14/1974	7/5/1982	7/5/1982	7/5/1982
Monterey	3/15/1974	6/15/1981	6/15/1981	6/15/1981
New Marlborough	6/28/1974	7/2/1981	7/2/1981	7/2/1981
Otis	9/20/1974	12/15/1983	12/15/1893	12/15/1983
Pittsfield	5/10/1974	3/1/1978	1/16/1987	3/1/1978
Richmond	12/10/1976	12/4/1985	12/4/1985	12/4/1985

Sandisfield	6/28/1974	12/4/1984	12/4/1984	12/4/1984
Sheffield	6/28/1974	9/16/1981	9/16/1981	9/16/1981
Stockbridge	5/31/1974	7/5/1982	7/5/1982	7/5/1982
Tyringham	11/29/1974	5/1/2005	5/1/2005	5/1/2005
Washington	10/8/1976	6/1/1996	6/1/1996	6/1/1996
Williamstown	2/1/1974	7/5/1977	4/3/1984	7/5/1977

Source: (FEMA, 2011)

Conversations with local planning officials and EMDs indicate that the enforcement of existing floodplain bylaws is inconsistent among Berkshire municipalities. While some local permitting authorities are vigilant and prohibit development in floodplains or require compensatory storage, others are not so vigilant.

In addition to the local floodplain bylaws, the municipalities locally enforce the other components of the NFIP requirements through the WPA, Building Code and Title V.

Building Codes

Massachusetts has some of the most stringent building code standards in the country. The state code (780 CMR 1.00-36.22) has been adopted by all Berkshire municipalities as their minimum building standards. Some municipalities, such as Pittsfield and Williamstown, have adopted stricter building codes for certain elements, such as foundation requirements. Local building inspectors must be certified by the state to be eligible for the position. However, it is widely recognized that the enforcement of the building code, especially on small development projects such as residential housing, is inconsistent across the county. Many inspectors work on a part-time basis and are overwhelmed with the number of inspections that they are performing.

Structural Mitigation

Structural measures to protect citizens and property from the impacts of natural hazards are limited within the county. Concrete flood chutes were installed between 1959-61 on the Hoosic River in the downtown areas of Adams and North Adams in response to the devastating floods of 1938 and 1955. These chutes were designed to accommodate floodwaters up to a 500-year flood.

Other structural measures include dams. Most of the dams in the county were installed to provide power for industry or to create recreational lakes and ponds. According to a database that is maintained by the Mass. Office of Dam Safety, some dams were specifically installed to control flood waters. It is unknown at this time if the flood control dams were installed in a coordinated way to control flood waters along the major streams and rivers.

Stormdrain systems are common throughout Berkshire County. They have historically been designed to collect and channel runoff away from roads, parking lots and large development sites as quickly as possible. These drainage systems discharge storm runoff into the nearest waterway, contributing to higher flood volumes in an accelerated time frame. At this time, local communities are not making great efforts to eliminate or reduce new stormwater discharges into their municipal drain systems; they merely strive to maintain the existing systems.

During the development of this mitigation plan, BRPC staff met with several of the DPW Superintendents in the county and identified areas within the communities where stormwater drainage problems occurred and contributed to flooding. In general, although local emergency management departments and DPWs work together to respond to flooding and other incidents, they do not work in a concerted way to plan for the mitigation of the hazards.

Existing Protection Matrixes

Table 96. Existing Protection Matrix - Adams

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A and A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater Management Plan	There is a stormwater management plan in place providing guidance on controlling and limiting stormwater	Hoosic River and tributaries	Limited as it is only advisory.	Create Stormwater Bylaw to enforce stormwater control
Tree Trimming	The town identifies trees within 8ft of utility wires and reports them to National Grid who will then trim/remove the trees	Entire Town	Effective	None
Flood Control Chutes	The Hoosic River is contained within flood chutes within the developed portion of town.	Downtown	Effective	Need clean-out and regular maintenance scheduled; Town needs assistance to implement.
Drainage System	The town employs an extensive storm water system. The town sweeps streets, maintains stormwater system, detention /retention areas, cleans culverts and catch basins.	Entire Town	Moderately Effective - Due to manpower issues, work is focused on problem areas with other areas dealt with reactively.	Establish a maintenance schedule to maintain stormwater system throughout entire town.

Table 97. Existing Protection Matrix - Becket

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A, AE, AH, AO, AL-30, and A99	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control.	Parts of town	Mostly effective	Replace/ maintain drainage system where flooding occurs.
Beaver Control Devices	The beaver population causes a significant influence to the town's flooding risk. The town has implemented several devices throughout town to control beaver-related flooding	Town-wide	Moderately-effective	More rigorous beaver mitigation program may be needed

Table 98. Existing Protection Matrix - Dalton

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A and A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has an extensive system of stormwater control.	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Stormwater Management Bylaw	The town has a stormwater bylaw to control the amount of stormwater entering the Housatonic River	Entire Town	Effective for new construction	None
Sluice gates	Crane & Company operates sluice gates at the Byron Mill and the Government Mill.	Housatonic River and surrounding area	Effective	None
Sluice gates	Sluice gates at Egypt Reservoir	Berkshire Trail and surrounding area	Effective	None
Sluice gates	Sluice gates at Windsor Reservoir	Majority of town	Effective	None

Table 99. Existing Protection Matrix - Egremont

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A and A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control.	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Road Paving	The town is working its way through town paving the dirt roads	Entire town	Effective	The town needs to continue to pave the dirt roads that are susceptible to washouts.
Tree Trimming	The town is working with the utility companies to do a better job of trimming the trees	Entire town	Mostly effective	The town and the utilities need to work to improve their relationship and to have more effective response.

Table 100. Existing Protection Matrix - Great Barrington

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A and A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Dam repair and maintenance	The East Mountain Dam has had some maintenance done recently and the Beartown Dam has been redone recently	East Mountain Dam area and Beartown Dam	Effective	Other dams need to be regularly maintained or redone
Stormwater System	The town has an extensive system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs
Stormwater Master Plan	The town is currently in development of a Stormwater Master Plan	Entire Town	Not Yet Effective	Complete the Stormwater Master Plan and implement recommendations

Table 101. Existing Protection Matrix - Hancock

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Beaver Control	Controlling the beavers has been attempted around Whitman Road	Whitman Road area	Not Effective	Investigate further methods of beaver control
Drainage system around village	The area around the village has a drainage system installed by the Army Corp of Engineers to control flooding.	Village area wetland	Moderately effective	Better maintenance of system
Townwide Drainage System	The town has a system of culverts and ditches to control stormwater	Town wide	Mostly effective	Replace / maintain drainage system in areas that experience flooding.
Tree trimming	National Grid and Western Mass Electric are being proactive and clearing trees around powerlines	Town wide	Effective	Notify utility companies when problems are found.

Table 102. Existing Protection Matrix - Lee

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A and A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Townwide Drainage System	The town has a system of culverts and ditches to control stormwater	Town wide	Mostly effective	Replace / maintain drainage system in areas that experience flooding.
Dam Inspections	The Lehey Dam which is used by the water department is inspected every two years	Lehey Dam	Effective	None
Emergency Operations	The Chief of Police has worked with the General Manager of the Outlet village to address mutual concerns about procedures during major storm events such as Tornado, snow cave-ins, etc. The concerns stem from the large number of people who may be there at one time and because of the village's exposed location.	Outlet Village	Effective	Continue working with the Outlets to deal with major storm events.
Tree Trimming	WMECO is very responsive to tree trimming in the town.	Town wide	Effective	Continue working with WMECO to ensure continued tree trimming
Beavers	The town periodically traps beavers to reduce the risk of beaver dams	Town wide	Mostly Effective	Continue to trap beavers as needed and trap in locations

				where problems occur. Consider using beaver solutions to reduce the need for beaver trapping.

Table 103. Existing Protection Matrix - Lenox

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A, A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has an extensive system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Tree trimming	Town trims trees and notifies utilities about trees that need trimming	Town wide	Effective	None

Table 104. Existing Protection Matrix - Monterey

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Lake Garfield Dam Inspections	Lake Garfield Dam is regularly inspected every two years	Lake Garfield and inundation area	Effective	None
Ditch Maintenance	The town regularly maintains their system of ditches	Entire town	Mostly Effective	Continue to properly maintain the ditches
Catch Basin Maintenance	The town regularly maintains their catch basins	Entire Town	Mostly Effective	Continue to properly maintain catch basins.
Replacement of Small Culverts	The town has replaced culverts that are too small over the last few years	Entire Town	Effective	Continue replacement of other culverts that are too small.

Table 105. Existing Protection Matrix - New Marlborough

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control.	Most of town	Mostly effective	Replace/maintain/build drainage system where flooding occurs.
Flood control dams	There are a number of flood control dams located throughout the southeastern portion of town	Southeastern portion of town	Effective	None

Table 106. Existing Protection Matrix - Otis

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A, AE, AH, AO, AL-30, A99	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control.	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Maintenance of stormwater system	The town conducts regular maintenance on the storm water system	Entire town	Mostly Effective	None
Driveway Standards	The town has driveway standards that does not allow new driveways to shed water onto the roadway	Entire town	Effective	None

Table 107. Existing Protection Matrix - Pittsfield

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Floodway, A and A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire City	Effective	None
Stormwater System	The city has an extensive system of stormwater control	Entire city	Mostly effective	Replace/maintain drainage system where flooding occurs.
Tree trimming	The utility companies are doing a more proactive job of trimming trees	Entire city	Mostly effective	The utilities need to do a better job at responding to emergencies
Incident Tracking	The city has recently implemented a work order system to better track problems	Entire city	Effective	None
Pittsfield Plaza Drainage	The owners of the Pittsfield Plaza are recently redone the drainage of the plaza, fixing a known problem area	Pittsfield Plaza	Effective	Regularly maintain the new drainage system
Oak Hill Tributary	The city currently has a grant to fix the Oak Hill Tributary to make it less flashy and remove sediment	Oak Hill	Significant progress has been made but implementation needs to be completed	Perform regular maintenance on the new system.
Wahconah Park	The city has designed a new stormwater system for the area	Wahconah Park	Current system is not effective; designed improvements need to be implemented	The city needs to implement the new design
Marchesio Park	A drainage plan has been prepared	Marchesio Park	Current system is not effective;	Permitting completed; project

			designed improvements need to be implemented	scheduled for 2011
Beaver Management	The city currently manages beavers in a reactionary manner	Entire city	Ineffective	The city should develop a plan to deal with beavers in a proactive manner to prevent future problems
Upper North Street ditch	There is a ditch parallel to Upper North Street designed to alleviate flooding	Upper North Street	Ineffective	Needs establishment of city easements & significant structural upgrades

Table 108. Existing Protection Matrix - Richmond

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district bylaw in place	Floodplain bylaw requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM floodplain	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Replacement of Culverts	The town has replaced some 10-12" culverts with 18-20" culverts	Entire Town	Effective	The town needs to continue replacing culverts that are undersized
Stormwater Control Maintenance	The town blows leaves out of the ditches each fall to maintain stormwater flow	Entire town	Effective	None
Beaver Control	The town has been utilizing beaver tricking devices, known as low flow or levelers, in multiple locations throughout town.	Entire Town	Effective	Continue to utilize the beaver control devices to alleviate flooding problems

Table 109. Existing Protection Matrix - Sandisfield

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A, A1-30 and the floodways	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control	Entire town	Mostly effective	Replace/maintain/build drainage system where flooding occurs.
Beaver Control	The town actively traps beavers	Entire town	Effective	Continue to respond the beaver problems throughout town

Table 110. Existing Protection Matrix - Sheffield

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM floodplain	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Relief Culverts	The town installed relief culverts at Lime Kiln Road in 2009	Lime Kiln Road	Mostly Effective	The town needs to install more relief culverts in this area.

Table 111. Existing Protection Matrix - Stockbridge

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A, A1-30 and the regulatory floodway	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Beaver Control	The town has a contract with Beaver Solutions to monitor and mitigate hazardous beaver dams	Ice Glen Road, Clark Street, Goodrich Street	Effective	Continue contract with Beaver Solutions and expand to additional areas where beavers are a problem
Lake Averic Dam	The town is engaged in engineering studies for the dam	Lake Averic	Not yet implemented	The town needs to continue persuing the repair/maintenance of the dam
Tree Trimming	National Grid engages in tree trimming on a regular basis	Entire Town	Effective	Conduct street tree survey to develop strategy for taking down problem trees
Stockbridge Bowl	Work was done on Stockbridge Bowl in 2005 to eliminate vegetation and built up clay material	Stockbridge Bowl	Effective	Continue maintaining Stockbridge Bowl

Table 112. Existing Protection Matrix - Tyringham

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Stormwater Maintenance	The town actively maintains their stormwater system	Entire town	Effective	Continue regular maintenance of stormwater system
Beaver Management	The town actively works to manage the beavers in town	Entire Town	Somewhat effective	The town needs to continue to work on and improve beaver control

Table 113. Existing Protection Matrix - Washington

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire Town	Effective	None
Stormwater System	The town has a system of stormwater control	Entire town	Mostly effective	Replace/maintain drainage system where flooding occurs.
Drainage Ditch Maintenance	The town regularly maintains their drainage ditches	Entire town	Effective	None
Beaver Management	The town actively manages its beaver population and dams	Entire town	Effective	Continue to manage beaver activity and expand to new beaver problems

Table 114. Existing Protection Matrix - Williamstown

Type of Existing Protection	Description	Area Covered	Effectiveness	Improvements Needed
Town participates in the National Flood Insurance Program (NFIP)	Provides flood insurance for structures located within the floodplain	FEMA flood zones	Effective	None
Floodplain zoning district ordinance in place	Floodplain ordinance requires all development, including structural and nonstructural activities, be in compliance with state building code requirements for construction in floodplain	Covers FIRM zones Zone A, A1-30	Generally effective for new construction, but many older structures pre-date ordinance	None
Building Code	The town enforces the state building code	Entire town	Effective	None
Zoning Bylaws	The towns bylaws deal extensively with ground water protection	Entire town	Effective	None
Zoning Bylaws	The towns bylaws deal extensively with erosion control	Entire town	Effective	None
Regulation of The Spruces mobile home park	There are areas within the park that new homes are not allowed due to flooding and other areas that are strictly regulated	The Spruces	Effective	None

Vulnerability / Risk Assessment

The Vulnerability / Risk Assessment has been updated from the 2005 plan to incorporate new data and has been reassessed to determine if our vulnerability and risk has changed.

Overall Vulnerability

There have been fifteen declared natural hazard disasters in the region since 1985, eleven of them declared by FEMA, two of them declared by the state of Massachusetts, and two by the Small Business Administration. These are listed in Table 115.

Table 115. Disaster Declarations in the Region, Nov. 1985-May 2011

Event	Date	Area Affected	Agency
Hurricane Gloria	November 1985	Berkshire	FEMA
Spring Floods	April 1987	Berkshire	FEMA
March Blizzard	March 1993	Berkshire	FEMA
Berkshire Tornado	May 1995	Egremont, Great Barrington, Monterey	State
January Blizzard	January 1996	Berkshire	FEMA
Williamstown Fire	March 1998	Williamstown	SBA
June Rainstorm	June 2000	Adams, Cheshire, New Ashford, North Adams, Williamstown	State
Great Barrington Fire	January 2001	Great Barrington	SBA
March Blizzard	March 2001	Berkshire	FEMA
February Blizzard	February 2003	Berkshire	FEMA
December Snowstorm	December 2003	Berkshire	FEMA
January Blizzard	January 2005	Berkshire	FEMA
October Rainstorm / Flood	October 2005	Berkshire	FEMA
April Nor'easter	April 2007	Berkshire	FEMA
December Ice Storm	December 2008	Berkshire	FEMA
January Winter Storm	January 2011	Berkshire	FEMA

Source: (Federal Emergency Management Agency, 2011)

Based on the identification of profile of the natural hazards that have occurred throughout the region, a vulnerability chart has been developed (Table 116). The State Hazard Mitigation Plan identifies evaluation criteria to determine the area of impact, frequency of occurrence and severity.

Area of Impact (extent of impact on any locality for a particular event)

Isolated: a single whole or partial community impacted
Local: One community to several communities impacted
Regional: many communities to a county impacted

Frequency Categorization

Very low: events that occur less frequently than once in 100 years (Less than 1% per year)
Low: events that occur from once in 50 years to once in 100 years (1% to 2% per year)
Medium: events that occur from once in 5 years to once in 50 years (2% to 20% per year)
High: events that occur more frequently than once in 5 years (Greater than 20% per year)

Severity Categorization

Minor: Limited and scattered property damage; limited damage to public infrastructure and essential services not interrupted; limited injuries or fatalities.
Serious: Scattered major property damage; some minor infrastructure damage; essential services are briefly interrupted; some injuries and/or fatalities.
Extensive: Widespread major property damage; major public infrastructure damage (up to several days for repairs); essential services are interrupted from several hours to several days; many injuries and/or fatalities.
Catastrophic: Property and public infrastructure destroyed; essential services stopped; numerous injuries and fatalities.

Table 116. Hazards Affecting Berkshire County

Natural Hazard:	Area of Impact	Frequency	Severity	Hazard Ranking
Flooding	Local	High	Extensive	8
Winter Storm (Nor'easter, Snow, Blizzard, Ice Storm)	Regional	High	Serious	8
Severe Storms (thunderstorm, wind, hail, lightning)	Regional	High	Serious	8
Dam Failure	Local	Low	Catastrophic	7
Tornado	Local	Medium	Extensive	7
Hurricane & Tropical Storms	Regional	Medium	Serious	7
Extreme Temperatures	Regional	Medium	Minor	6
Drought	Regional	Medium	Minor	6
Wildfire	Local	High	Minor	6
Beaver Dams	Local	Low	Serious	5
Landslides	Isolated	Medium	Minor	4
Earthquake	Local	Low	Minor	4
Ice Jam	Isolated	Medium	Minor	4

Assessing Vulnerability: Addressing Repetitive Loss Properties

In general, damage from flooding are relatively light when compared to the rest of the state. Only four communities in Berkshire County have repetitive flood losses. These are the City of Pittsfield and the Towns of Dalton, Great Barrington and Lenox as shown in Table 117 (MEMA 2009). All of these have been residential losses.

Table 117. Repetitive Losses

Community	*Properties*	*Number of Losses*	*Total Paid*	*Type*
Dalton	*2*	*7*	*$32,717.61*	*2 Residential*
Great Barrington	*3*	*9*	*$80,542.95*	*1 Residential, 2 Non-Residential*
Lenox	*1*	*2*	*$16,988.50*	*1 Residential*
Pittsfield	*5*	*16*	*$76,098.30*	*5Residential*

Source: (MEMA, 2009)

Assessing Vulnerability: Identifying Structures

It is critical that the Berkshire County Hazard Mitigation Plan not only identifies risk, but also assess the county vulnerability to those risks. BRPC, with input from local officials, assessed vulnerability analyzing risk data discussed in the previous section (Risk Assessment), land use and location of critical facilities, and economic and population trends.

Flooding

Flooding can occur as a result of one or a combination of many hazards, including winter storms, hurricanes/tropical storms, ice jams, and/or dam failure. Some precipitation events such as winter storms and hurricanes typically hit the county as a whole. The intensity and amount of precipitation may hit one region of the county more severely, depending on the path of a particular storm, but in general precipitation will occur across the region from these types of storms. Other storms, such as severe thunderstorms, are more localized. Likewise, impacts from ice jams and dam failure will be localized. Impacts from dams in particular will be localized and the area of impact can be fairly accurately calculated. However, most dams within the county do not have inundation maps.

Since the National Flood Insurance Program began in each community, there have been 270 claims in Berkshire County totaling $1,490,123 as indicted in the Flood Insurance Claims table below. This is approximately $5,519 per claim. The City of Pittsfield has had the most losses at 100 as well as the most paid at $439,147. The City of North Adams has the highest payment per loss at $24,883, but only had seven (7) claims (MEMA, 2009). The flood insurance claims are presented in Table 118.

Flooding is the most predictable natural hazard in the region, and the one against which hazard mitigation efforts can work most effectively. It is also an area for which data is most available and extensive in detail. It is, therefore, the hazard for which BRPC is estimating potential loss.

To try to assess damages resulting from a large flood event, BRPC used the 100-year floodplain as the approximate area that would be impacted and as the basis to calculate potential property loss. The number of buildings within the floodplain for each municipality were identified and counted by reviewing color orthophotos that were overlaid with the FEMA Q3 floodplains. This number was then compared to the total number of each type of building in each municipality. The number and types of

buildings were derived from the Massachusetts Department of Revenue (DOR), which annually releases these numbers and provides total values for each property type for every community. The percentage of buildings and the total buildings are derived from the DOR numbers. Table 119 details the number of buildings by type within each municipality that are located in the floodplain.

Table 118. Flood Insurance Claims*

Loss Statistics - Berkshire County			**As of 12/11/2009**
Community	**Total Claims Since 1978**	**Total Paid Since 1978**	**Ratio Payment Per Loss**
Pittsfield	100	$439,147	$4,391
Monterey	14	$239,542	$17,110
Great Barrington	43	$188,843	$4,392
North Adams	7	$174,182	$24,883
Stockbridge	10	$77,936	$7,794
Williamstown	11	$51,128	$4,648
Cheshire	10	$44,055	$4,406
Dalton	10	$41,501	$4,150
Becket	6	$41,115	$6,853
Sheffield	6	$34,681	$5,780
Lenox	6	$28,599	$4,767
Adams	10	$26,199	$2,620
New Marlborough	7	$22,563	$3,223
Otis	1	$21,453	$21,453
Lee	8	$18,294	$2,287
Egremont	6	$14,312	$2,385
West Stockbridge	7	$9,750	$1,393
Lanesborough	1	$6,554	$6,554
Hancock	1	$4,353	$4,353
Clarksburg	1	$2,255	$2,255
Hinsdale	2	$2,032	$1,016
Alford	1	$1,629	$1,629
Richmond	1	$0	$0
Sandisfield	1	$0	$0
Total for Berkshire County	**270**	**$1,490,123**	**$5,519**
Total for Massachusetts	**26848**	**$281,957,407**	**$10,502**

Source: (MEMA, 2010)

*Note: The municipalities of New Ashford, Tyringham, and Washington participate in the NFIP but have not had any claims. The municipalities of Florida, Mount Washington, Peru, Savoy, and Windsor do not participate in the NFIP.

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Table 119. Number of Buildings in Floodplain by Type and their Percentage of Total Buildings in Community

	Buildings in Floodplain							
Community	**Residential**		**Commercial**		**Industrial**		**Total**	
	No.	**Percent**	**No.**	**Percent**	**No.**	**Percent**	**No.**	**Percent**
Adams	167	6.0%	14	9.7%	7	9.9%	188	6.3%
Alford	12	3.9%	0	0.0%	0	0.0%	12	3.9%
Becket	100	5.7%	7	38.9%	1	33.3%	108	6.1%
Cheshire	97	7.7%	2	5.6%	4	28.6%	103	7.9%
Clarksburg	56	8.5%	4	40.0%	4	100.0%	64	9.5%
Dalton	73	3.2%	4	6.0%	5	12.8%	82	3.4%
Egremont	37	4.7%	6	33.3%	0	0.0%	43	5.3%
Florida	2	0.6%	0	0.0%	3	27.3%	5	1.4%
Great Barrington	60	2.3%	18	6.5%	11	24.4%	89	3.1%
Hancock	18	2.8%	0	0.0%	0	0.0%	18	2.6%
Hinsdale	44	4.7%	7	24.1%	0	0.0%	51	5.2%
Lanesborough	140	10.8%	4	6.5%	2	7.7%	146	10.6%
Lee	167	7.5%	47	34.3%	19	27.9%	233	9.6%
Lenox	38	1.8%	5	3.9%	8	40.0%	51	2.2%
Monterey	85	11.0%	8	100.0%	0	0.0%	93	11.9%
Mount Washington	0	0.0%	0	0.0%	0	0.0%	0	0.0%
New Ashford	12	13.2%	2	15.4%	0	0.0%	14	13.5%
New Marlborough	82	8.5%	1	2.6%	3	33.3%	86	8.5%
North Adams	109	2.9%	25	9.3%	15	18.8%	149	3.6%
Otis	167	10.5%	8	30.8%	4	40.0%	179	11.0%
Peru	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Pittsfield	1061	7.4%	126	16.9%	62	25.1%	1249	8.1%
Richmond	19	2.4%	0	0.0%	0	0.0%	19	2.4%
Sandisfield	86	14.1%	4	44.4%	1	25.0%	91	14.6%
Savoy	7	2.1%	0	0.0%	0	0.0%	7	2.1%
Sheffield	35	2.5%	19	21.8%	6	20.7%	60	4.0%
Stockbridge	51	3.7%	10	26.3%	5	55.6%	66	4.7%
Tyringham	22	7.8%	0	0.0%	0	0.0%	22	7.8%
Washington	3	1.2%	0	0.0%	1	33.3%	4	1.6%
West Stockbridge	47	6.3%	17	38.6%	0	0.0%	64	8.1%
Williamstown	375	16.9%	39	33.1%	3	20.0%	417	17.8%
Windsor	6	1.3%	0	0.0%	0	0.0%	6	1.3%
Total	3036	6.0%	372	15.5%	174	22.7%	3582	6.7%

Source: (MassGIS, 2010)*, BRPC*

It should be noted that the loss estimate assessment conducted in the previous pages does not reflect potential losses from dam failures. The estimate for such losses would require an assessment of properties located within the inundation areas below each dam in the county, the data of which is not available.

Of the roads in the county's network, 136.6 miles fall within the 100-year floodplain, representing 4.9% of the county's total road inventory. These segments are at increased risk for flooding due to their locations. There are 10 municipalities in which greater than 5% of their road system is in the floodplain. The inventory of roads in the floodplain by town is shown in Table 120.

Table 120. Roads in Floodplain by Community

Community	Miles of Roads in Community	Miles of Roads in Floodplain	Miles of Dirt Roads in Community	Miles of Dirt Roads in Floodplain	Percentage of Roads in Floodplain
Adams	82.9	2.84	9.4	0.3	3.43%
Alford	26.4	0.63	3.4	0.1	2.39%
Becket	160.8	6.06	30.8	0.3	3.77%
Cheshire	76.4	2.82	17.5	0.7	3.69%
Clarksburg	27.8	1.76	2.1	0.0	6.33%
Dalton	63.3	1.63	5.0	0.1	2.58%
Egremont	58.9	2.86	17.1	0.1	4.86%
Florida	55.1	2.54	16.2	0.0	4.61%
Great Barrington	143.2	6.38	17.2	0.6	4.46%
Hancock	53.3	0.95	7.8	0.1	1.78%
Hinsdale	61.6	3.64	17.3	0.9	5.91%
Lanesborough	92.8	3.80	25.7	0.6	4.09%
Lee	119.4	9.99	6.1	0.8	8.37%
Lenox	103.1	1.91	10.4	0.3	1.85%
Monterey	77.1	2.95	32.9	0.7	3.83%
Mount Washington	28.4	Floodplain Not Delineated	7.0	Floodplain Not Delineated	Floodplain Not Delineated
New Ashford	23.8	1.93	8.0	0.2	8.11%
New Marlborough	119	6.92	39.0	2.3	5.82%
North Adams	112.1	3.58	4.7	0.0	3.19%
Otis	108.4	5.18	12.8	0.3	4.78%
Peru	51.2	0.07	19.4	0.0	0.14%
Pittsfield	322.2	25.71	15.7	2.1	7.98%
Richmond	62	1.17	19.7	0.5	1.89%
Sandisfield	105.1	9.24	53.7	0.5	8.79%
Savoy	74.6	0.36	28.6	0.1	0.48%
Sheffield	127.4	9.01	25.5	1.9	7.07%
Stockbridge	99.3	4.48	13.3	0.5	4.51%
Tyringham	30.8	1.47	14.8	0.4	4.77%
Washington	63.7	1.36	24.5	0.2	2.14%
West Stockbridge	63.3	4.46	12.9	0.2	7.05%
Williamstown	122.5	8.99	17.4	0.7	7.34%
Windsor	88.5	1.91	41.4	0.0	2.16%
Total	**2804.4**	**136.59**	**577.3**	**15.4**	**4.87%**

Source: (MassGIS, 2010) (MassDOT, 2010)

Wildfire, Tornado and Earthquake

Wildfire is a hazard that can occur anywhere in the region, especially given the fact that 75% of the county is covered in forest. However, wildfires in this region more often tends to occur in the suburban/woodland interface or in the Conifer Dominant forests which are scattered throughout the county. This causes it to be difficult to determine costs and to determine the vulnerability of the region to the hazard. The vulnerability is thus broadly looked at regionally along with the other regional hazards.

Tornados and earthquakes can also occur anywhere in the region. These hazards occur sporadically in the Berkshires, and do not correlate well to geology and topology and weather conditions, which are helpful in predicting these hazards in other areas of the country such as California or the mid-west. Although tornados are relatively rare in the region, they have been the most destructive in terms of injury, death and loss of property within the last half of this century. Tornados do tend to occur in the summer months (see Section 2.2.4 for data), which is important to note, as the seasonal population of the county increases substantially in the summer months. To date, damaging tornadoes have struck rural areas with relatively low development density. Although a small tornado touched down in the middle of Pittsfield in 2004, the only damage reported to occur was to a few parked automobiles; no structural damage was sustained. A more powerful tornado, such as those that have struck Great Barrington and Monterey in 1995, would be devastating in terms of human injury and death and property loss if it were to strike a city or town center.

Region Wide Hazards

Winter storms, severe storms, hurricanes and tropical storms, extreme temperatures and droughts tend to impact the entire region. Storm events are chronic and are accepted as a cost of living in the Berkshires. Therefore, data on the cost of enduring and cleaning up after them is not at this time recorded. The direct costs are widely borne by local municipalities, state agencies and utilities. Direct loss of production and employment are sporadically borne by businesses.

The heavy rainfall that can accompany hurricanes/tropical storms can pose seasonal threats to dams in the region, especially during particularly wet summers. The hurricane season of 2004 is a notable case, where localized flooding occurred due to one partial dam failure in Hinsdale and to two emergency releases of water in Pittsfield to protect the structural integrity of the dams.

Assessing Vulnerability: Estimating Potential Losses

It is critical that the Berkshire County Hazard Mitigation Plan not only identifies risk, but also assess the county vulnerability to those risks. BRPC, with input from local officials, assessed vulnerability, analyzed risk as discussed in the previous section (Section 2, Risk Assessment), land use and location of critical facilities, and economic and population trends.

Flooding

Flooding can occur as a result of one or a combination of many natural hazards, including winter storms, hurricanes/tropical storms, ice jams, and/or dam failure. Some precipitation events such as winter storms and hurricanes typically hit the county as a whole. The intensity and amount of precipitation may hit one region of the county more severely, depending on the path of a particular storm, but in

general precipitation will occur across the region from these types of storms. Other storms, such as severe thunderstorms, are more localized. Likewise, impacts from ice jams and dam failure will be localized. Impacts from dams in particular will be localized and the area of impact can be fairly accurately calculated, however there are no inundation maps for most of the dams in the county.

Flooding is the most predictable natural hazard in the region, and the one against which hazard mitigation efforts can work most effectively. It is also an area for which data is most available and extensive in detail. It is, therefore, the hazard for which BRPC is estimating potential loss.

To try to assess damages resulting from a large flood event, BRPC used the 100-year floodplain as the approximate area that would be impacted and as the basis to calculate potential property loss. The number of buildings within the floodplain for each municipality were identified and counted by reviewing color orthophotos that were overlaid with the FEMA Q3 floodplains. This number was then compared to the total number of each type of building in each municipality. The number and types of buildings were derived from the Massachusetts Department of Revenue (DOR), which annually releases these numbers and provides total values for each property type for every community. The percentage of buildings and the total buildings are derived from the DOR numbers. Table 20 details the number of buildings by type within each municipality that are located in the floodplain.

To come up with an estimate on the potential property loss due to flood damage, BRPC took the number of properties within the floodplain for each municipality, and multiplied it by the average value for that property type for that municipality. To reflect a more realistic and complete loss estimate, BRPC then added the potential cost of replacing the contents of those buildings. According to HAZUS, the value of building contents depends on the type of building. The contents of residential buildings have a replacement cost of approximately 50% of the building value. Commercial building contents cost about 100% of building value and Industrial building contents cost about 125%. These totals can be found in table 120. According to BRPC's loss estimate calculations, the total value of buildings and their contents at risk from flooding in the region is approximately $2.4 billion.

The loss estimate for the county should be considered a rough estimate for two reasons. First, the numbers of buildings and value of the buildings are based on 2010 data from the DOR and are based on the community's property assessments, which is only an estimate of the property's value. Also, the average assessment is used to determine the property values and is not specific to individual buildings. Second, the floodplain areas have been delineated using existing floodplain maps. FEMA is currently updating its floodplain data is GIS, which is expected to be much more accurate than the existing data. The recalculation of loss estimate should be done once the new floodplain data are available.

It should be noted that loss of property does not reflect the total cost of damages that would be incurred in a region-wide flooding event. A truer cost estimate may include damages or losses across the county to municipalities (rescue and evacuation costs, infrastructure repair/replacement, cleanup costs, personnel costs), businesses (loss of operations, loss of fleet, loss of work), and individuals (loss of work).

Table 121. Loss Estimate for Properties within the 100-year Floodplain ($000)

Community	Residential Property	Residential Contents (50% Property Value)	Commercial Property	Commercial Contents (100% Prop. Value)	Industrial Property	Industrial Contents (125% Prop. Value)	Total Loss Estimate
Adams	$24,624	$12,312	$3,343	$3,343	$2,706	$3,383	$49,712
Alford	$9,557	$4,779	$0	$0	$0	$0	$14,336
Becket	$29,464	$14,732	$7,355	$7,355	$399	$498	$59,802
Cheshire	$21,367	$10,683	$1,038	$1,038	$442	$553	$35,121
Clarksburg	$9,991	$4,995	$797	$797	$907	$1,133	$18,620
Dalton	$16,454	$8,227	$1,588	$1,588	$7,147	$8,934	$43,939
Egremont	$19,478	$9,739	$6,702	$6,702	$0	$0	$42,622
Florida	$352	$176	$0	$0	$12,514	$15,643	$28,685
Great Barrington	$27,005	$13,503	$15,381	$15,381	$3,067	$3,834	$78,172
Hancock	$5,212	$2,606	$0	$0	$0	$0	$7,818
Hinsdale	$11,121	$5,560	$4,023	$4,023	$0	$0	$24,727
Lanesborough	$33,723	$16,861	$5,393	$5,393	$332	$415	$62,118
Lee	$47,351	$23,676	$54,918	$54,918	$14,481	$18,102	$213,446
Lenox	$17,385	$8,693	$6,808	$6,808	$3,173	$3,966	$46,833
Monterey	$52,183	$26,092	$9,997	$9,997	$0	$0	$98,269
Mount Washington	$0	$0	$0	$0	$0	$0	$0
New Ashford	$4,487	$2,244	$1,309	$1,309	$0	$0	$9,349
New Marlborough	$38,683	$19,341	$554	$554	$688	$860	$60,680
North Adams	$16,395	$8,198	$9,848	$9,848	$4,864	$6,080	$55,233
Otis	$59,868	$29,934	$4,882	$4,882	$1,240	$1,550	$102,356
Peru	$0	$0	$0	$0	$0	$0	$0
Pittsfield	$200,799	$100,399	$71,602	$71,602	$32,366	$40,458	$517,226
Richmond	$10,084	$5,042	$0	$0	$0	$0	$15,125
Sandisfield	$31,416	$15,708	$2,601	$2,601	$155	$194	$52,676
Savoy	$1,273	$637	$0	$0	$0	$0	$1,910
Sheffield	$13,460	$6,730	$11,119	$11,119	$3,107	$3,883	$49,416
Stockbridge	$28,937	$14,469	$12,684	$12,684	$2,137	$2,671	$73,582
Tyringham	$13,787	$6,893	$0	$0	$0	$0	$20,680
Washington	$797	$399	$0	$0	$76	$95	$1,368
West Stockbridge	$24,762	$12,381	$5,636	$5,636	$0	$0	$48,416
Williamstown	$159,864	$79,932	$31,576	$31,576	$2,494	$3,117	$308,559
Windsor	$1,446	$723	$0	$0	$0	$0	$2,169
Total	$931,327	$465,663	$269,154	$269,154	$92,296	$115,370	$2,142,964

Source: (Massachusetts Department of Revenue, 2010)**,** (MassGIS, 2010)

Assessing Vulnerability: Analyzing Development Trends

Due partially to its topography, Berkshire County is still a relatively undeveloped area, with only 8% of its land developed. Like much of New England, settlement has historically occurred along the major waterways, taking advantage of fertile valley soils and the power that the rivers provided for industry. The most heavily developed areas in the county are in the downtown areas of Pittsfield, which has the largest and most densely developed city center, North Adams, Adams and Great Barrington.

In 2000, BRPC updated its *Regional Plan for the Berkshires.* This Plan was developed with input from several community representatives from across the county. The overall vision of the Plan is to preserve the rural character of the Berkshires, while allowing the economic and residential growth necessary to keep the region vibrant. To achieve this goal, the Plan advocates that new growth and development be concentrated within or close to the established centers in order to maintain the region's characteristic pattern of settlement – that of concentrated development separated by rural countryside. Directing new development also contributes to the revitalization of aging industrial centers.

Concentrated development includes the reuse of existing buildings, especially historic mills and architecturally significant residential buildings. Some of these buildings are located in floodplain areas. While directing new development to existing centers and buildings, it is important that community planners and developers make provisions to floodproof existing buildings as they are rehabilitated to minimize the impacts of future flood events.

Although the year-round population of Berkshire County has been experiencing a steady decline since 1970, there has been an increase in residential development for the same period (BRPC 2000). While the region would prefer to concentrate development in existing centers, commercial and residential sprawl are the predominant patterns of development. Based on historic trends and confirmed by the 2010 Census, most of the new development is single family seasonal housing. While the county lost 3,734 people since 2000, it has gained 2,207 housing units. However, the total occupied housing units have only increased by 85 units, meaning the remaining new housing is seasonal units. (US Census Bureau) The majority of the new seasonal units are large homes on large isolated lots in the rural hill towns as well as condos and timeshares closer to the community centers or other attractions. The majority of new commercial development tends to be located along the main highways and is a mix of small to mid size stores up to the occasional big box store, specifically in Pittsfield and the other large communities. There has been little new industrial development in the county and a number of industries have left, leaving vacant mills that are targeted for new industry or a mix of residential and commercial use. The limited development that occurs in the Berkshires has decreased since the 2005 plan due to the economic recession and the continued outflow of population. Even with our limited development trends, it is still important that local permitting authorities have floodplain bylaws in place and that they strictly enforce them. As part of the plan update for the risk assessment, new development since 2005 was reviewed and no significant changes were found.

Mitigation Strategy

BRPC substantially updated the Mitigation Strategy from the 2005 plan. The goals have been completely redone and actions have been added. All actions in the previous plan are incorporated into this plan and their status has been given.

Mitigation Goals

BRPC collected and analyzed natural hazard data throughout 2010. During that time, BRPC staff visited and spoke to local officials, first responders, planners, DPW Superintendents from most of the municipalities within the region as well as private individuals and organizations. Areas within those municipalities where natural hazards have struck or where flooding is known to be problematic were documented and mapped. BRPC staff also regularly attended Regional Emergency Management Committee (REPC) meetings to understand their needs in addressing natural disasters. The Draft Goals and Objectives within this plan were developed as local vulnerabilities were being identified and concerns were being raised by emergency responders and local officials. The following regional goal was established early in the process.

> ***Regional Goal:*** *Reduce the loss of life, property, infrastructure, and environmental and cultural resources from natural disasters.*

In support of the Regional Goal, there are several additional goals:

> ***Goal:*** *Investigate, design and implement structural projects that will reduce and minimize the risk of flooding.*
>
> ***Goal:*** *Investigate and implement projects that will reduce and minimize the risk of non-flooding hazards.*
>
> ***Goal:*** *Increase the capacity of local Emergency Managers, DPWs, and Fire, Police and Health Departments to plan for and mitigate natural hazards*
>
> ***Goal:*** *Increase public awareness of natural hazard risks and mitigation activities available to them*
>
> ***Goal:*** *Improve the quality of the data for the region as it pertains to natural hazards*
>
> ***Goal:*** *Improve existing local policies, plans, regulations, and practices to reduce or eliminate the impacts of natural hazards*

Mitigation Measures

The second step in the creation of the region's mitigation strategy is to identify a range of mitigation techniques, and within these activities, specific actions. These actions need to help achieve the above goals.

All mitigation activities considered in the planning process can be categorized as one of the following techniques:

1. Prevention

Preventive actions are actions that will help in keeping problems from getting worse. Prevention actions are intended to address future development and guide development away from hazards. Examples of preventive activities include:

- Planning and zoning
- Open space preservation
- Stormwater management
- Capital improvements planning
- Building codes

2. Property Protection

Property protection actions are actions that address individual buildings and reducing their risk through modification. Examples include:

- Acquisition
- Relocation
- Retrofitting
- Flood-proofing

3. Public Education and Awareness

Public education and awareness actions are those actions that will inform and remind the public about hazards and the actions they can take to avoid potential damage and injury as a result of a hazard. Example education activities include:

- Community outreach projects
- Hazard area maps
- Regional and community websites
- Displays at public events and public facilities
- Real estate disclosure
- Educational programs in schools

4. Natural Resource Protection

Natural resource protection actions are actions that reduce the intensity of hazard effects and improve the quality of the environment and wildlife habitats. Examples of natural resources protection actions include:

- Erosion and sediment control
- Wetland protection
- Expanding public open space
- Environmental restoration

5. Emergency Services Protection

Emergency services protection actions are actions that will protect emergency services before, during, and immediately after an occurrence. Examples of emergency services protection actions include:

- Protection of warning systems
- Protection of critical facilities
- Protection of infrastructure, such as roads, which are needed for emergency response
- Emergency response training and exercising
- Evacuation planning and management

6. Structural Projects

Structural projects are actions that will control the hazard and directly protect people. Examples of structural projects include:

- Diversion of stormwater
- Channel modification
- Dams
- Diversions / detention and retention basins

Implementation of Mitigation Actions

The actions shown in the following tables were identified from the 2005 plan as well as from analyzing the needs and problems that were expressed in the update of the plan. The section is divided into two sections, 1) Regional Action Plan, which identifies actions that can be carried out throughout the county and are not specific to any single jurisdiction, and 2) the Local Action Plans, which detail actions specific to that community.

The actions listed in the plan have an" Implementing Responsibility" field which lists who is responsible for implementing that action. Many of the actions fall under multiple entities and those entities will need to coordinate their work on the action.

Resources and funding for action items are broadly listed within the action tables. Funding that is specified as from a community would be from their general funds (taxes). A couple of communities also have enterprise funds for their water and sewer systems which may be able to be used for improving the disaster resistance of their water and sewer infrastructure. In addition, every community receives Chapter 90 funding from the state for road improvements. This funding could be used for items such as culvert replacement and drainage improvement.

Funding that is specified as FEMA is considered to be Pre-Disaster Mitigation grants (PDM), Flood Mitigation Assistance (FMA), Hazard Mitigation Grant Program (HMGP) and post disaster funds.

Homeland Security, through the Western Region Homeland Security Advisory Council (WRHSAC) provides funding to the region to work on various items, such as training and exercises, improving sheltering and evacuation planning as a region and is listed as a source for many of the emergency response type actions.

The Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) provides funding for beaver control devices.

Other sources, such as Massachusetts Historic Commission, MEMA, Massachusetts Department of Environmental Protection, Environmental Protection Agency, Executive Office of Energy and Environmental Affairs, Federal Energy Regulatory Commission, Massachusetts Fish & Game, Department of Conservation and Recreation (Dam Safety), Department of Public Health, American Red Cross, and Army Corp of Engineers all are listed as a possible funding source, but how they would fund it is unknown. The projects listed with these agencies tend not to fit under the typical FEMA funding

The funding for many projects will fall to the individual land owners as there are no funding sources out there for many of the projects that impact their properties.

Finally, there are a number of actions that are listed as NA. These actions tend to be low to no cost funding, such as writing/passing a stormwater bylaw, enforcing floodplain regulations, enforcing the building code, etc.

Prioritization of Mitigation Actions

Once the action items were established, prioritization of the actions needed to be conducted. The actions within each community were largely prioritized by the municipalities, with the regional actions being guided by the previous plan, the regional committee and BRPC staff. Prioritization was based on the following criteria:

- The severity of the hazard the action is addressing
- The number of homes and businesses affected by the hazard
- Whether or not road closures occurred and what impact closures had on delivery of emergency services and the local economy
- Is there political support and public support to implement the mitigation measures?
- Can the town provide the necessary maintenance when the mitigation measure is completed?
- Does the cost seem reasonable when considering the size of the problem and likely benefits from mitigation?

As the specific cost of the projects on the action tables are not known at this time, only a generalized estimate could be used. Due to not having more detailed costs, a more detailed prioritization process such as STAPLEE could not be used. However, items may be reprioritized once a cost is developed and a BCA is conducted on specific projects. The prioritization from the 2005 plan was generally unchanged. However, if a community specifically determined that an action's priority was wrong, it was changed to reflect the communities' current priorities – in most cases lowering the priority due to lack of interest / political support.

Mitigation Actions

The Regional Mitigation Action Plan is presented in table 122 on the following page and the individual Local Mitigation action Plans are presented on tables 123-142. For the region and communities that already had existing plans, their tables have been modified to fit this new format as well as provide an update on the status since the last plan. No actions from the 2005 plan have been removed from this plan.

The Regional Action Plan is an update from the 2005 Hazard Mitigation Plan. All actions have been reviewed and updated. The status of the actions from the 2005 plan has been included

Table 122. Regional Mitigation Action Plan

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding	Status from 05 or New
Prevention – Flooding	Incorporate new FEMA floodplain data and maps into existing and future planning efforts.	New FEMA maps would be more accurate and allow for a more accurate assessment of the flooding risk	Berkshire Regional Planning Commission (BRPC), Mass. Emergency Management Agency (MEMA), Municipalities	4-6 years/ Medium	Federal Emergency Management Agency (FEMA)	Not started – FEMA is not prioritizing this region, so they have not allocated the funding to it
Prevention - Flooding	Develop floodplain protection bylaws for municipalities that do not have them	Floodplain protection bylaws would help a community limit expansion into a floodplain	Municipalities, BRPC	4-6 years /Medium	NA	Not started – there was little interest in this over the last few years by those communities
Prevention – Flooding	Improve enforcement of existing floodplain bylaws	Tougher enforcement of existing bylaws would ensure that properties within a floodplain were properly protected	Municipalities	1-3 years/ High	NA	Communities are continuing to work on enforcing the floodplain bylaws
Prevention – All Hazards	Limit the expansion of infrastructure in hazard-prone areas	Limiting the expansion of infrastructure and development would reduce the future risk of hazards	Municipalities	1-3 years/ High	NA	Communities are continuing to try to reduce expansion into floodplains
Property Protection - Flooding	Encourage the flood-proofing or relocation of existing structures in floodplain zones	Flood-proofing and relocation of structures in floodplains would prevent owners from	Municipalities	4-6 years/ Medium	NA	Not started – Municipalities have had difficult economic times

		losing their homes during a flood.				since the last plan and have not pursued this.
Public Education – All Hazards	Educate local building inspectors on natural disasters	A more through education of building inspectors on natural hazards would help them in assessing new development and ensuring its ability to withstand future disasters	Municipalities, MEMA, Mass. Municipal Assoc. (MMA)	4-6 years/ Medium	NA	The local building inspectors have monthly meetings to discuss building codes and have received education on changes to the code related to natural hazards
Prevention – Flooding, Dams	Insure the integrity of large beaver dams or breach them in a controlled manner	Large beaver dams can cause significant damage if they fail. Insuring their integrity will help to reduce the risk of flooding	Municipalities, Mass. Fish & Game (F&G)	1-3 years/ High	MSPCA	DCR, municipalities and private individuals have worked to control beaver dams to reduce their potential impact
Prevention, Natural Resource Protection – Flooding, Dams	Continue to work with Mass. Fish & Game to investigate permanent measures to minimize beaver impacts	Permanent measures for minimizing beaver impacts would reduce the risk of flooding	Municipalities, F&G	1-3 years/ High	MSPCA	F&G and other organizations have worked to implement beaver control devices to control the beaver population
Prevention, Natural Resource Protection – Flooding, Dams	Make beaver deterrent devices more readily available and affordable to municipalities	Making beaver deterrent devices more affordable would	Municipalities, F&G	1-3 years/ High	MSPCA	The Massachusetts Society for the

		allow more municipalities to utilize them, decreasing the risk of flooding				Prevention of Cruelty to Animals has been providing funding to local municipalities to install beaver deterrent devices
Prevention, Emergency Services Protection – Flooding, Dams	Floodproof or relocate critical facilities located within floodplains, focusing on EOCs	Flood proofing and relocation of critical facilities will insure that the facilities are still operational during a disaster	Municipalities	1-3 years/ High	NA	Not started – Municipalities have had difficult economic times since the last plan and have not pursued this.
Structural Projects – Flooding	Improve stormwater management systems that are located in hazard prone areas or are inadequate	Improving stormwater management systems will reduce the risk of localized flooding due to improperly maintained systems or undersized systems	Municipalities	4-6 years/ Medium	Dept. of Environmental Protection (DEP), Environmental Protection Agency (EPA)	Municipalities have been improving stormwater systems in hazard prone areas as roads are rebuilt or problems occur with the existing system
Prevention - Flooding	Size larger future stormwater and flood control infrastructure to accommodate projected future increase in flows	Enlarging stormwater systems will insure the systems will be able to handle expected increased rain and runoff	Municipalities	1-3 years / High	Existing sources	New
Prevention -	Work with scientists, engineers and	Having a accepted	BRPC, municipalities	1-3 years / High	DEP, EPA	New

Flooding	regulators to establish an accepted methodology to resize stormwater infrastructure	methodology in resizing stormwater systems will eliminate the uncertainty on determining properly sized systems				
Prevention - Flooding	Develop bylaws that require on-site containment of stormwater	On-site bylaws will help reduce the amount of runoff and reduce the load on stormwater systems and thus reducing the risk of flooding	Municipalities, BRPC	4-6 years/ Medium	NA	BRPC has provided advice to communities on bylaws related to on-site containment of stormwater
Prevention - Flooding	Encourage the use of low-impact development techniques in all new development to eliminate new runoff sources	Low-Impact development techniques will help eliminate runoff, thus reducing the risk of flooding due to over capacity stormwater systems	Municipalities	4-6 years/ Medium	DEP, EOEEA	BRPC has provided advice to communities on low-impact development techniques
Public Education – Flooding, Dams	Educate dam owners about their responsibilities and liabilities.	Educating dam owners about their responsibilities will help them in better maintaining their dams	Mass. Department of Conservation and Recreation Office of Dam Safety, FEMA	1-3 years/ High	DCR, Federal Energy Reg. Commission (FERC)	Unknown
Prevention – Flooding, Dams	Provide a list of state-approved engineering firms to dams owners and EMDs	Providing state approved firms will allow owners and EMDS to be able to readily contact a firm in case a problem occurs	Office of Dam Safety	1-3 years/ High	MEMA	Not started – the Office of Dam Safety has been busy over the last five years with inspections and repairing dams and has not

						been providing information to outside entities about their work.
Prevention, Emergency Services Protection – Flooding, Dams	Educate local Emergency Management Directors about dams in their municipalities	Better educated EMDs will be more aware of the dams in their municipalities and what their problems are	Office of Dam Safety, Municipalities	1-3 years/ High	NA	MEMA and DCR have been educating EMDs about dams and municipalities have become more aware of the danger of the dams
Prevention – Flooding, Dams	Ensure that each dam has an updated Emergency Action Plan and Inundation Map.	An EAP for each dam will allow communities to better prepare for a potential dam failure	Office of Dam Safety, Municipalities	4-6 years / Medium	DCR	DCR has been working with dam owners to create EAPs
Prevention, Public Education – Flooding, Dams	Increase the working relationship between upstream and downstream dam owners	Improving the relationships between upstream and downstream dam owners will allow for a better, more managed response to dam problems and failures	Office of Dam Safety, Municipalities	4-6 years/ Medium	NA	Not started – the Office of Dam Safety has been busy over the last five years with inspections and repairing dams and has not been providing information to outside entities about their work.
Prevention, Public Education – Flooding, Dams	Investigate opportunities to create cooperative alliances/working relationships between dam owners and upstream shoreline property owners.	Improving relationships between dam owners and shoreline owners will	Office of Dam Safety, DCR, dam owners, Lakes and Ponds Assoc. of Western Mass. (LAPA-	4-6 years/ Medium	NA	Not started – the Office of Dam Safety has been busy over

		improve the response if dam problems	West)			the last five years with inspections and repairing dams and has not been providing information to outside entities about their work.
Public Education – All Hazards	Help local officials identify opportunities to mitigate natural hazard threats	Local officials are often part time volunteers in Berkshire County, so any assistance from the state to identify opportunities to mitigate natural hazards will be useful	Municipalities, MEMA,	4-6 years/ Medium	NA	Municipalities have been working to identify area which could potentially be mitigated in order to reduce risk and future costs
Public Education – All Hazards	Improve record-keeping of local natural disasters and their impacts	Improving the record keeping for storms and response to problems will improve a communities ability to compete for limited dollars for mitigating disasters	Municipalities, MMA	1-3 years / High	NA	Some local officials are keeping better track of natural disasters and their impacts. As the internet becomes more used, more data about natural hazards has also become more available
Public Education – All Hazards	Provide leaflets to landowners in hazard-prone areas that discuss hazard mitigation	Better informing landowners in hazard prone areas will	Municipalities, MEMA	7-10 years/ Low	NA	Not started – there has been a lack of

		improve response of land owners when a disaster occurs				interest in providing this information by the communities
Public Education – All Hazards	Showcase successful hazard mitigation projects	Showcasing hazard mitigation projects enables others to see what can be done to mitigate hazards and provide potential solutions to their own problems	Municipalities, MEMA	7-10 years/ Low	NA	MEMA has been showcasing several local mitigation projects as they discuss future grant opportunities
Prevention, Public Education – All Hazards	Periodically update the *Berkshire County Hazard Mitigation Plan*	Periodically updating this plan will enable communities to be more aware of hazards as well as allow them to maintain grant eligibility	BRPC, MEMA	5 years/ Medium	FEMA	The Hazard Mitigation Plan has gone through a revision
Emergency Services Protection – All Hazards	Conduct local disaster response drills and feature them in local news media	Conducting response drills better prepares communities for disasters and publicizing the drills raises the public's awareness of the potential hazards	Municipalities, Regional Emergency Planning Committees (REPCs)	4-6 years/ Medium	Homeland Security, Mass. Dept. of Public Health (DPH)	Municipalities and REPCs periodically conduct disaster response drills and often they publicize them through the media
Emergency Services Protection – All Hazards	Develop and publicize local and regional evacuation routes and shelter locations	Publicizing local routes and shelters better prepares citizens for disasters	Municipalities, REPCs	4-6 years/ Medium	Homeland Security, DPH	WRHSAC has been working for several years on developing evacuation

						routes and are currently developing regional evacuation plans and sheltering plans, which includes informing the public
Emergency Services Protection – All Hazards	Teach residents in rural areas how to equip their homes for "on-site" sheltering	Enabling residents for on-site sheltering reduces the response and sheltering load on communities during a disaster	MEMA, REPCs, Municipalities	4-6 years/ Medium	NA	WRHSAC has worked to develop sheltering information for homeowners
Emergency Services Protection – Flooding, Dams	Post important contact information at all dams in the county	Posting contact information on dams will allow citizens to quickly report problems that occur with dams	Dam owners, Municipalities	4-6 years/ Medium	NA	Not started - the Office of Dam Safety has been busy over the last five years with inspections and repairing dams and has not been providing information to outside entities about their work.
Emergency Services Protection, All Hazards	Develop formal Mutual Aid Agreements for emergency response teams, DPWs	MAA will enable communities to better work together in responding to disasters	Municipalities, REPCs, Western Region Homeland Security Advisory Council (WRHSAC), MEMA	1-3 years/ High	Homeland Security	Completed
Emergency Services	Add additional airwave capacity for	Additional airwave	Municipalities, REPCs,	1-3 years/ High	Homeland	WRHSAC has

Protection – All Hazards	emergencies	capacity will enable responders to get information for quickly and accurately	WRHSAC, MEMA		Security	been adding significant airwave capacity over the last 10 years
Emergency Services Protection – All Hazards	Fill communications gaps by adding new towers where necessary, using existing towers and structure were possible,	Filling communication gaps will enable responders to be in contact with each other and allow them to respond more quickly to disasters	Municipalities	1-3 years/ High	Homeland Security	WRHSAC has been filling gaps by retrofitting or adding towers
Emergency Services Protection – All Hazards	Increase local and regional emergency response training	Improving training will enable responders to handle disasters better	Municipalities	4-6 years/ Medium	Homeland Security	WRHSAC has been providing funding for municipalities to train their emergency responders
Emergency Services Protection – All Hazards	Inventory shelter capacity within the region and determine each shelter's structural ability to withstand natural disaster events.	Determining shelter capacity and ability to withstand disasters will ensure a community can shelter its citizens during a disaster	Municipalities, School Districts, REPCs, MEMA, Red Cross	4-6 years/ Medium	Homeland Security, DPH, Red Cross	MEMA and Red Cross have been inventory shelters
Emergency Services Protection – All Hazards	Seek the creation of additional shelters where the needs are greatest	Creating additional shelters to increase capacity will allow more residents to be taken care of during a disaster	Municipalities, School Districts, REPC, Red Cross	4-6 years/ Medium	NA	MEMA, Red Cross and WRHSAC are working on shelter planning for the region
Emergency Services Protection – All Hazards	Expand and formalize local agreements for use of shared mass care shelters in the event of a disaster	Agreements to share shelters assists communities who do not have enough	Municipalities, REPCs, MEMA, Red Cross	4-6 years/ Medium	NA	MEMA, Red Cross and WRHSAC are working on

		capacity to shelter their residents during a disaster				sheltering planning for the region which will include expanded and formalized agreements
Emergency Services Protection – All Hazards	Determine ability of town governmental centers to withstand a variety of natural hazard events	Ensuring town governmental centers ability to withstand disasters helps maintain response during disasters	Municipalities	4-6 years/ Medium	NA	Not started – there has been a lack of interest by the municipalities in pursuing this
Emergency Services Protection – All Hazards	Educate local officials to help them develop plans to protect critical documents and materials	Ensuring critical document s and materials are safe during a disaster reduces future risk and confusion after a disaster	Municipalities	4-6 years/ Medium	NA	Not started – there has been a lack of interest by the municipalities in pursuing this
Prevention – All Hazards	Identify cultural resources within hazard-prone areas	Identifying cultural resources that are in areas prone to hazards will assist in informing resources of potential hazards	BRPC, REPCs, MEMA, WRHSAC	4-6 years / Medium	FEMA, Homeland Security	Not started due to a lack of interest
Public Education – All Hazards	Provide workshops to help local businesses and cultural institutions to develop disaster mitigation plans for their facilities	Providing education and workshops to local businesses and institutions will enable them to be better prepared for future hazards	MEMA, Chambers of Comm., Berk. Visitors Bureau,	1-3 years/ High	FEMA	Not started – there has been a lack of interest in this by businesses during these tough economic times
Structural Projects - Flooding	Help businesses and cultural institutions to secure funding to retrofit their	Providing funding to businesses and	MEMA, Chambers of Comm., Berk. Visitors	4-6 years/ Medium	FEMA	Not started due to a lack on

	properties against flood damage while insuring the cultural and historic integrity.	institutions for flood proofing their properties will enable them to continue business after a disaster	Bureau			interest
Prevention – Flooding, Winter Storms, Severe Storms, Hurricane & Tropical Storms	Encourage electric companies, state, and municipalities to improve working relationship and to better define responsibilities	Better defining responsibilities and improving relationships will help utilities and municipalities better manage utility lines and protect them from damage during a disaster	Electric companies, MEMA, Municipalities	1-3 years / High	NA	New
Prevention – Flooding, Winter Storms, Severe Storms, Hurricane & Tropical Storms	Encourage utilities to bury utility lines to ensure service is not disrupted during disasters	Burying utility lines will ensure that they are not disrupted during more disasters	Electric Companies, Municipalities	4-6 years / Medium	NA	New
Prevention – Winter Storms, Severe Storms, Hurricane & Tropical Storms, Wildfire	Encourage communities to work with UMass's Forestry program to perform street tree surveys and create a plan to manage hazard trees	Performing street tree surveys will allow communities to better manage their limited resources for managing street trees	Electric companies, Municipalities, UMass	4-6 years / Medium	NA	New
Prevention - Flooding	Encourage local municipalities at a minimum to maintain or join the National Flood Insurance Program	Participating in the NFIP will help ensure a community is working to protect its flood plains	Municipalities, MEMA, FEMA	4-6 years/ Medium	NA	MEMA has continued to encourage municipalities to join the NFIP
Prevention - Flooding	Encourage local municipalities to consider joining the Community Rating System	Joining the CRS will allow municipalities to better manage their floodplains and provide residents with	Municipalities, MEMA, FEMA	4-6 years/ Medium	NA	Not started due to a lack of interest

		potential discounts on flood insurance.				
Prevention – All Hazards	Continue to enforce the state building code	Enforcing the state building code for new buildings and additions will help insure that these structures meet the guidelines for resisting hazards, such as wind, rain, snow	Municipalities	1-3 years / High	NA	New
Prevention – Wildfire	Review factors affecting risk to wildfire	By reviewing he factors related to wildfire, a more accurate assessment of where communities are vulnerable can be obtained	Municipalities / BRPC	1-3 years / Medium	NA	New
Prevention – All Hazards	Review building codes and impact on disaster resistance as well as age of housing	By reviewing the building codes, a better understanding on structural vulnerability can be provided	Municipalities / BRPC	1-3 years / Medium	NA	New
Prevention – All Hazards	Review vulnerability of region to hazards	Continuing to review and refine our regions vulnerability to hazards and how they have changed over time will provide greater guidance on future plan updates	Municipalities / BRPC	1-3 years / Medium	NA	New
Prevention – All Hazards	Review development trends within region and communities	Review of development trends can help assess the effectiveness of mitigation	Municipalities / BRPC	1-3 years / Medium	NA	New

Table 123. Mitigation Action Plan - Adams

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Prevention - Flooding	Create a stormwater bylaw	A stormwater bylaw will restrict additional stormwater from entering the system and overloading the infrastructure	Town of Adams	1-3 years/ High	Town
Structural Projects – Flooding, Dams	Improve condition of Fisk Street Dam	Improving the condition of dam will reduce the risk of failure and inundating the area downstream	Private citizen / Town of Adams	1-3 years/ High	Private Citizen, DCR
Prevention - Flooding	Conduct regular maintenance on the flood chutes	Maintaining the flood chutes will reduce the risk of flooding	Town of Adams	4-6 years / Medium	Town, Army Corp
Prevention, Natural Resources Protection – Flooding	Work with the Commonwealth and the Army Corps of Engineers to reform the permitting and process requirements of maintaining the flood chutes	Reforming the permitting and process requirements will allow the town to maintain the flood chutes in a more effective manner	Town of Adams	1-3 years/ High	Town / Army Corp / MassDEP
Structural Projects - Flooding	Alleviate flood concerns around the Pump Station in the Zylonite Station Road area.	Alleviating the flood problem will ensure the pump station can continue to operate during a flood	Town of Adams	4-6 years/ Medium	Town, FEMA
Structural Projects - Flooding	Improve the drainage on Burlingame Hill Road	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Adams	4-6 years/ Medium	Town, FEMA, Property Owners
Structural Projects – Flooding, Landslide	Determine solution to river wall erosion on South Willow St.	Resolving the erosion will reduce the risk of flooding and reduce the risk of damage to infrastructure	Town of Adams, Private Landowner	4-6 years/ Medium	Town, FEMA

		and structures on South Willow Street			
Structural Projects - Flooding	Conduct a study and implement findings for the drainage problems around Burt Street and Renfrew Field.	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Adams	4-6 years/ Medium	Town, FEMA
Prevention - Flooding	Establish regular maintenance schedule for the entire stormwater system	Regularly maintaining the stormwater system will reduce the change of flooding	Town of Adams	1-3 years/ High	Town
Structural Projects - Flooding	Conduct a study and implement findings for the drainage area around West Kittler Avenue	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Adams	4-6 years/ Medium	Town, FEMA
Property Protection – All hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Adams, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town
Prevention, Natural Resource Protection - Wildfire	Work with the state and other responsible land owners to clear land of debris from the December 2008 Ice Storm	Clearing the debris from the forests will help in reducing the chance of wildfire	Town of Adams, Forest Wardens, Mass DCR	4-6 years/ Medium	Town of Adams, MassDCR, FEMA, Individual land owners
Prevention, Property Protection - Landslides	Alleviate the risk of landslides around East Street and Walling Road.	Removing the risk of landslides will help protect the properties and infrastructure in the landslide prone areas and reduce the cost of repairing the damages	Town of Adams, Individual land owners	7-10 years/ Low	Town of Adams, Individual land owners, FEMA

The Town of Becket's Action Plan is an update from their 2005 Hazard Mitigation Plan. All actions have been reviewed and updated. The status of the actions from the 2005 plan has been included

Table 124. Mitigation Action Plan - Becket

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding	Status from 05 or New
Structural Projects - Landslide	Stabilize bank and reconstruct westbound land of Brooker Hill Road	Stabilizing the bank will prevent further erosion of Brooker Hill Road and	Town of Becket, MEMA, DEP	1-3 years/ High	FEMA, Chapter 90	Completed
Emergency Services Protection - Landslide	Ensure the safety of citizens and rescue personnel using Brooker Hill Road – Maintain Barriers on road and signage declaring one-way traffic	Ensuring the safety of Brooker Hill Road will prevent accidents and further damage to the road	Town of Becket	1-3 years / High	None	Completed
Emergency Services Protection - Landslide	Ensure the safety of citizens and rescue personnel using Brooker Hill Road – Increase tickets for traveling wrong-way on road	Ensuring the safety of Brooker Hill Road will prevent accidents and further damage to the road	Town of Becket	1-3 years/ High	None	Completed
Prevention - Flooding	Incorporate new FEMA floodplain data and maps into existing and future planning efforts	Incorporation of new FEMA floodplain maps will ensure a more accurate assessment of the damage potential in town due to flooding	Town of Becket, Berkshire Regional Planning Commission, MEMA	1-3 years/ High	FEMA	Not started – FEMA is not prioritizing this area for new maps so they have not allocated funding for it.
Prevention - Flooding	Continue to strictly enforce floodplain bylaws	Tougher enforcement of existing bylaws would ensure that properties within a	Town of Becket	1-3 years/ High	Town	The town continues to enforce the floodplain bylaw

		floodplain were properly protected				
Prevention – All Hazards	Limit the expansion of infrastructure in hazard-prone areas	Limiting the expansion of infrastructure and development would reduce the future risk of hazards	Town of Becket	1-3 years/ High	Town	The town has continued to limit the expansion into hazard-prone areas
Prevention, Property Protection, Structural Projects - Flooding	Encourage the flood-proofing or relocation of existing structures in floodplain zones	Flood-proofing and relocation of structures in floodplains would prevent owners from losing their homes during a flood.	Town of Becket	4-6 years/ Medium	FEMA	Not started due to lack on interest
Prevention – Flooding, Dams	Insure the integrity of large beaver dams or breach them in a controlled manner	Large beaver dams can cause significant damage if they fail. Insuring their integrity will help to reduce the risk of flooding	Town of Becket, Mass. Fish & Game (F&G)	4-6 years/ Medium	Town, Mass F&G, MSPCA	The town and F&G continue to monitor dams in town to ensure their integrity
Prevention – Flooding, Dams	Continue to work with Mass. Fish & Game to investigate permanent measures to minimize beaver impacts	Permanent measures for minimizing beaver impacts would reduce the risk of flooding	Town of Becket, F&G	1-3 years/ High	Town, Mass F&G, MSPCA	The town works with Beaver Solutions to minimize beaver impacts
Prevention – Flooding, Dams	Continue to partner with Beaver Solutions to control flooding	Making beaver deterent devices more affordable would allow more municipalities to utilize them, decreasing the risk of flooding	Town of Becket, F&G	1-3 years/ High	Town	The town continues to use Beaver Solutions to control beaver flooding
Structural Project - Flooding	Replace culvert under Benton Hill Road and others to handle beaver	Replacing the culvert will enable the culvert to work properly in	Town of Becket	1-3 years/ High	Town, FEMA	Not started – the town has not been able to allocate

	dam failure	case of beaver dam failure				funding for this project
Property Protection, Emergency Services Protection - Flooding	Determine if DPW facility is in the floodplain; if so, investigate methods to protect building and equipment	Having the DPW in a floodplain creates the potential issue of not being able to access it during a disaster	Town of Becket	4-6 years / Medium	Town, FEMA	Not Done – the town is investigating moving the DPW facility to another location
Emergency Services Protection – Flooding, Dams	Determine which major transportation routes are in inundation areas for dams of High or Significant Hazard	Determining if the major routes are in an inundation area will allow responders to direct traffic away from the area during a disaster	Town of Becket, dam owners, MEMA	4-6 years / Medium	Town, Dam Owners	Not Done as not all dams have inundation areas mapped
Structural Projects - Flooding	Continue to prioritize and improve stormwater management systems that are located in hazard prone areas or are inadequate	Improving stormwater management systems will reduce the risk of localized flooding due to improperly maintained systems or undersized systems	Town of Becket	4-6 years/ Medium	Dept. of Environmental Protection (DEP)	Not started – the town has not been able to allocate funding for this project
Prevention - Flooding	Develop bylaws that require on-site containment of stormwater	On-site bylaws will help reduce the amount of runoff and reduce the load on stormwater systems and thus reducing the risk of flooding	Town of Becket	4-6 years/ Medium	Town	Not Started – the town has not expressed an interest in this since the last plan
Prevention - Flooding	Encourage the use of low-impact development techniques, especially in flood-prone areas	Low-Impact development techniques will help eliminate runoff, thus reducing the risk of flooding due to over capacity stormwater systems	Town of Becket,	4-6 years/ Medium	Town	Not Started – the town has not expressed an interest in this since the last plan

Public Education – Flooding, Dams	Educate dam owners about their responsibilities and liabilities.	Educating dam owners about their responsibilities will help them in better maintaining their dams	Office of Dam Safety, FEMA, Federal Energy Regulatory Commission (FERC)	1-3 years/ High	Federal Emergency Management Agency (FEMA), FERC	Unknown
Prevention – Flooding, Dams	Request the Office of Dam Safety to re-evaluate the Hazard Classification for the Rudd Pond Dam and verify the existence of the Higley Brook dam	Having an accurate assessment of the dams in the town will enable a better evaluation of the risk of dams	Office of Dam Safety, FEMA	1-3 years/ High	FEMA, FERC	Unknown
Prevention, Emergency Services Protection – Flooding, Dams	Ensure that at a minimum that all High Hazard and Significant Hazard dams have updated Emergency Action Plans and Inundation Maps on file with the town, including the Commonwealth	An EAP for each dam will allow communities to better prepare for a potential dam failure	Dept. of Conservation and Recreation (dam owner), Office of Dam Safety,	1-3 years/ High	MEMA	Unknown
Prevention – Flooding, Dams	Increase the working relationship between upstream and downstream dam owners	Improving the relationships between upstream and downstream dam owners will allow for a better, more managed response to dam problems and failures	Town of Becket, dam owners, Office of Dam Safety	1-3 years / High	Town, DCR	Not started – the Office of Dam Safety has been focusing on inspections and repairs and has not dealt with this issue
Public Education – All Hazards	Provide leaflets to landowners in hazard-prone areas that discuss hazard mitigation	Better informing landowners in hazard prone areas will improve response of land owners when a disaster occurs	Town of Becket, MEMA	4-6 years/ Medium	MEMA	Not Done – the town has not had an interest in this since the last plan

Public Education – All Hazards	Showcase successful hazard mitigation projects	Showcasing hazard mitigation projects enables others to see what can be done to mitigate hazards and provide potential solutions to their own problems	Town of Becket, MEMA	7-10 years/ Low	MEMA	MEMA has used the successful Brooker Hill Road mitigation project as an example
Property Protection, Emergency Services Protection – All Hazards	Determine ability of town governmental centers to withstand a variety of natural hazard events	Ensuring town governmental centers can withstand a disaster assists in maintaining order during a disaster as well as reducing the cost of a disaster	Town of Becket	4-6 years/ Medium	Town	Not Done – the town has not had an interest in this since the last plan
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Becket, Regional Emergency Planning Committees (REPCs), MEMA, Western Region Homeland Security Advisory Council (WRHSAC), MassHistoric	4-6 years/ Medium	Town	Not Done – the town has not had an interest in this since the last plan
Property Protection - Flooding	Help local businesses to retrofit or floodproof their properties	Providing funding to businesses and institutions for flood proofing their properties will enable them to continue business after a disaster	Town of Becket, business owners	4-6 years/ Medium	FEMA	Not Done – there has been a lack of interest in this by businesses
Public Education – All Hazards	Provide workshops to help local historic properties and businesses to develop	Providing education and workshops to local businesses and institutions will enable	Town of Becket, MEMA, Chamber of Commerce, Historical Commission	7-10 years/ Low	Mass. Historical Commission	Not Done – there has been a lack of interest in this by businesses

	disaster mitigation plans for their facilities	them to be better prepared for future hazards				
Emergency Services Protection - All Hazards	Conduct local disaster response drills and feature them in local news media	Conducting response drills better prepares communities for disasters and publicizing the drills raises the public's awareness of the potential hazards	Town of Becket, REPCs	1-3 years/ High	WRHSAC	The town, as part of the REPC, conducts drill periodically
Emergency Services Protection – All Hazards	Develop and publicize local and regional evacuation routes and shelter locations	Publicizing local routes and shelters better prepares citizens for disasters	Town of Becket, REPCs	4-6 years/ Medium	WRHSAC	Not started
Emergency Services Protection – All Hazards	Develop formal and legally-binding Mutual Aid Agreements for emergency response teams and DPWs	MAA will enable communities to better work together in responding to disasters	Town, LEPCs, WRHSAC, MEMA	1-3 years /High	WRHSAC	Completed
Emergency Services Protection – All Hazards	Fill communications gaps by adding new towers where necessary, using existing towers and structure were possible,	Filling communication gaps will enable responders to be in contact with each other and allow them to respond more quickly to disasters	Town of Becket, WRHSAC, REPCs	1-3 years/ High	WRHSAC	WRHSAC continues to work on improving communications in the town and region
Emergency Services Protection – All Hazards	Increase local and regional emergency response training	Improving training will enable responders to handle disasters better	Town of Becket, WRHSAC, REPCs	1-3 years/ High	WRHSAC, Volunteer Fire Assistance	The town continues to improve its response training
Emergency Services Protection – All Hazards	Re-evaluate shelter capacity for Becket residents and determine each shelter's structural	Determining shelter capacity and ability to withstand disasters will ensure a community can shelter	Towns of Becket, Washington, WRHLSAC, REPCs, School Districts, MEMA	4-6 years/ Medium	Town, WRHSAC	Not Done – the town has not expressed an interest in this since the last plan

	ability to withstand natural disaster events.	its citizens during a disaster				
Emergency Services Protection – All Hazards	Retrofit existing and seek the creation of additional shelters where the needs are greatest	Creating additional shelters to increase capacity will allow more residents to be taken care of during a disaster	Municipalities, School Districts, REPC, MEMA	4-6 years/ Medium	WRHSAC	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Expand and formalize local agreements for use of shared mass care shelters in the event of a disaster	Agreements to share shelters assists communities who do not have enough capacity to shelter their residents during a disaster	Municipalities, Shelters, REPCs, MEMA	7-10 years/ Low	WRHSAC	WRHSAC is working on regional shelter plans which will expand and formalize shelter agreements
Emergency Services Protection, Public Education – All Hazards	Educate local officials to help them develop plans to protect critical documents and materials	Ensuring critical document s and materials are safe during a disaster reduces future risk and confusion after a disaster	Municipalities	4-6 years/ Medium	5% Set Aside Program	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Improve record-keeping of local natural disasters and their impacts	Improving record keeping of disasters will enable a community to better assess its risk and improve its eligibility for grants	Town of Becket	1-3 years / High	Town	The town continues to keep detailed records of local disasters and impacts

Table 125. Mitigation Action Plan - Dalton

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project - Flooding	Perform engineering study of Walker Brook as it flows underground through town and implement findings.	Improving the draining of this area will reduce the risk of flooding	Town of Dalton	1-3 years/ High	Town, FEMA
Structural Project – Flooding	Perform engineering study of Kirchner Road bridge to determine solutions to alleviate flooding	Improving the bridges capacity for water flow will help reduce flooding	Town of Dalton, Mass Department of Transportation (MassDOT)	4-6 years/ Medium	Town, MassDOT, Federal Highway Administration (FHWA)
Structural Project - Flooding	Perform engineering study of Orchard Road bridge to determine solutions to alleviate flooding	Improving the bridges capacity for water flow will help reduce flooding	Town of Dalton, MassDOT	4-6 years/ Medium	Town, MassDOT, FHWA
Prevention – Flooding	Implement beaver control solutions	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town of Dalton	7-10 years/ Low	Town, MSPCA
Prevention - Flooding	Continue to utilize Stormwater Management committee to reduce stormwater	Reducing new stormwater will reduce the load on the existing system reducing the need to perform upgrades and expansions to the system	Town of Dalton	1-3 years / High	Town
Prevention – Flooding, Dams	Work with the City of Pittsfield to ensure Cleveland Reservoir Dam is in good condition	Ensuring the dam is in good shape will reduce the risk of failure and subsequent flooding	Town of Dalton, City of Pittsfield	1-3 years / High	Town, City

Prevention – Flooding, Dams	Work with Dalton Fire District to ensure Windsor Dam is in good condition	Ensuring the dam is in good shape will reduce the risk of failure and subsequent flooding	Town of Dalton, Dalton Fire District	1-3 years / High	Fire District
Prevention, Natural Resource Protection - Wildfire	Reduce excess dry timber in the surrounding forest lands	Clearing the debris from the forests will help in reducing the chance of wildfire	Town of Dalton, Dalton Fire & Water District, DCR, F&W	4-6 years/ Medium	Town, DCR, F&W, FEMA
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Dalton, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town

Table 126. Mitigation Action Plan - Egremont

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Projects – Flooding, Dam	Continue working with DCR to repair Prospect Lake Dam	Improving the condition of the dam will reduce the risk of failure and subsequent flooding	DCR	1-3 years / High	DCR
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Continue to work with utility companies to improve proactive tree trimming	Removing the trees and branches around utility lines will reduce the risk of power failure during storms	Town, Utilities	1-3 years / High	Town, Utilities
Structural Project, Prevention - Flooding	Continue to pave dirt roads that are prone to flooding and washouts	Paving dirt roads that are prone to washouts reduces the cost of routine maintenance and prevents future damage to the road	Town	4-6 years / Medium	Town
Prevention – Flooding	Implement beaver control solutions	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town	7-10 years/ Low	Town, MSPCA
Prevention - Flooding	Work with Conservation Commission and DEP to improve ability to remove debris from streams where flooding is a concern	Removing debris from streams would reduce the damming and the flooding it is causing	Town, DEP	4-6 years/ Medium	Town
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared	Town of Egremont, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town

		for the hazards and to prevent their loss			
Structural Project - Flooding	Replace culvert on Jug End Road with a larger culvert	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town	4-6 years/ Medium	Town, FEMA
Structural Project – Flooding	Install storm drainage system at Town Hall parking lot to alleviate flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the parking lot	Town	4-6 years/ Medium	Town, FEMA
Structural Project - Flooding	Study flooding at the intersection of Jug End Road and Mount Washington Road and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town	4-6 years/ Medium	Town, FEMA
Structural Project / Prevention – Flooding	Study the hydrology of the Taconic Lane area and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town	4-6 years/ Medium	Town, FEMA
Prevention – Flooding	Implement a stormwater management bylaw	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town	4-6 years/ Medium	Town
Structural Project - Flooding	Replace culvert on Shun Toll Road west of Route 71	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town	4-6 years / Medium	Town, FEMA
Structural Project - Flooding	Study flooding along Mount Washington Road and implement findings	Improving the drainage will reduce	Town	4-6 years / Medium	Town, FEMA

		the risk of flooding and reduce the cost of maintaining the road			
Structural Project / Prevention - Flooding	Study the Sheffield Road stream crossing and upstream impacts and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town	1-3 years/ High	Town, FEMA

Table 127. Mitigation Action Plan - Great Barrington

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project – Flooding, Dam	Conduct engineering study of Lake Mansfield Dam and Road to determine solution to potential dam failure / road closure and implement findings	Ensuring the condition of the dam will reduce the risk of failure and subsequent flooding	Town of Great Barrington	1-3 years/ High	DCR, Town
Structural Project – Flooding	Conduct engineering study on the Green River / Seekonk Road flooding to determine solution to flooding and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Great Barrington	1-3 years/ High	Town, FEMA
Structural Project - Flooding	Conduct engineering study on Round Hill Road to determine solution to flooding and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Great Barrington	4-6 years/ Medium	Town, FEMA
Structural Project – Flooding	Conduct engineering study on the drainage pond off of Main Street to determine potential solutions to alleviate flooding in winter and implement findings	Improving the drainage will reduce the risk of flooding	Town of Great Barrington	4-6 years/ Medium	Town, FEMA
Prevention, Structural Project – Flooding	Implement findings from the Stormwater Master Plan for Castle Hill drainage area	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the roads	Town of Great Barrington	4-6 years/ Medium	Town, Private Land Owners, FEMA
Prevention, Structural Project - Flooding	Implement findings from Stormwater Master Plan for the village of Housatonic	Implementing the findings of the master plan will reduce the risk of flooding due to stormwater	Town of Great Barrington	4-6 years/ Medium	Town, Private Land Owners, FEMA
Prevention - Flooding	Expand the current Stormwater Master Plan to	Covering the entire	Town of Great	1-3 years/ High	Town

	include the entire town	town in the master plan will give a complete picture of the stormwater problems and how to address them	Barrington		
Prevention, Property Protection - Flooding	Work with property owners in Housatonic to get easements on storm water drains underneath buildings and to eliminate cross-country drainage	Obtaining easements on existing stormwater systems will enable to town to proactively maintain and repair them without delay	Town of Great Barrington, property owners	4-6 years/ Medium	Town, Private Land Owners
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Great Barrington, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town
Structural Project - Flooding	Conduct engineering study of floodplain around Wastewater Treatment Plant to determine solutions for potential flooding	Reducing the flooding around the wastewater treatment plan will ensure the continued operation of the facility during a flooding event.	Town of Great Barrington	1-3 years/ High	Town, FEMA

Table 128. Mitigation Action Plan - Hancock

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Prevention – Flooding	Conduct further work on controlling beaver activity around Whitman Road	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town	1-3 years/ High	Town, Private Land Owners, MSPCA
Prevention - Flooding	Perform maintenance on the drainage system around the village	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the infrastructure around the village	Town	1-3 years/ High	Town
Structural Project - Flooding	Conduct engineering study on flood control around village to determine if existing structure is adequate for the future	Ensuring the flood control system is of an adequate size will help prevent future flooding	Town, Army Corp of Engineers	4-6 years/ Medium	Town, FEMA, Army Corp of Engineers
Structural Project – Flooding	Replace and enlarge culvert on Madden Road to eliminate flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town	4-6 years/ Medium	Town, FEMA
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Continue work with National Grid and WMECO to proactively trim trees around utility lines	Removing the trees and branches around utility lines will reduce the risk of power failure during storms	Town, National Grid, WMECO	4-6 years/ Medium	Town, National Grid, WMECO
Property Protection – All hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure	Identifying historic structures, businesses and	Town, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town

	inundation areas.	critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss			
Prevention – Wildfire	Work with the state to clear woody debris in the Pittsfield State Forest around Berry Pond	Clearing the debris from the forests will help in reducing the chance of wildfire	Town, DCR	4-6 years / Medium	DCR
Prevention - Flooding	Work with new development to ensure the use of best practices for managing stormwater runoff	Reducing stormwater runoff from new development will ensure the existing system can handle the future runoff	Town	4-6 years / Medium	Town, Private Land Owners

Table 129. Mitigation Action Plan - Lee

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Prevention – Flooding	Conduct further work on controlling beaver activity around Fairview Street.	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town	1-3 years/ High	Town, Private Land Owners, MSPCA
Structural Project - Flooding	Install new culvert at Laurel Lake to prevent flooding of Route 20	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	MassDOT, Mass DCR	1-3 years / High	State funding
Prevention - Flooding	Perform maintenance on the drainage system around the village	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the infrastructure around the village	Town	1-3 years/ High	Town
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Continue work with WMECO to proactively trim trees around utility lines	Removing the trees and branches around utility lines will reduce the risk of power failure during storms	Town, WMECO	4-6 years/ Medium	Town, WMECO
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Proactively trim trees in downtown and on Summer Street to prevent damage during storms	Trimming the trees will prevent damage to properties as well as the potential loss of power	Town	4-6 years / Medium	Town
Prevention / Structural Project - Flooding	Investigate and implement solution to water flowing over Route 102/Marble Street	Improving the drainage will reduce the risk of flooding	Town	4-6 years / Medium	Town

		and reduce the cost of maintaining the roads			
Structural Project - Flooding	Install larger culvert on Meadow Street to handle storm flows.	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town	4-6 years / Medium	Town
Prevention / Natural Resource Protection - Flooding	Relocate or flood proof the junk yard on Meadow Street.	Reducing the risk of flooding will prevent damage to the business as well as preventing contamination to the water	Town / Private Owner	4-6 years / Medium	Town / Private Owner
Structural Project - Flooding	Improve drainage swales around Chestnut Street to prevent icing	Improving the drainage will reduce the risk of flooding caused by the icing and reduce the cost of maintaining the road	Town / MassDOT	4-6 years / Medium	Town / State
Structural Project - Flooding	Install larger culvert in the area around the rest area on the turnpike / West Road / Stockbridge Road to prevent flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the roads	Town / MassDOT	4-6 years / Medium	Town / State
Structural Project - Flooding	Work with owner of private road leading to water treatment plant to design and implement a permanent solution to the road washing away and exposing the water line	Properly dealing with the stormwater will ensure the continued access to the plant as well as access to water for the community	Town / Private Owner	4-6 years / Medium	Town / Private Owner
Property Protection -	Identify historic structures, businesses and critical	Identifying historic	Town, MEMA,	4-6 years/ Medium	Town

Flooding	facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Massachusetts Historical Commission		
Prevention – Wildfire	Work with the state to remove debris in October Mountain State Forest	Clearing the debris from the forests will help in reducing the chance of wildfire	Town, DCR	4-6 years / Medium	DCR
Prevention - FLooding	Develop bylaws and subdivision regulations to control stormwater.	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town	4-6 years / Medium	Town

The Town of Lenox's Action Plan is an update from their 2005 Hazard Mitigation Plan. All actions have been reviewed and updated. The status of the actions from the 2005 plan has been included.

Table 130. Mitigation Action Plan - Lenox

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding	Status from 05 or New
Prevention - Flooding	Encourage FEMA and MEMA to update Berkshire County's FEMA floodplain data and maps. Once completed, the Town should incorporate new information into existing and future planning efforts.	New FEMA maps would be more accurate and allow for a more accurate assessment of the flooding risk	Town of Lenox, MEMA	4-6 years/ Medium	FEMA	No Action – FEMA is not prioritizing our region and thus has not allocated funding for the updating of the maps
Prevention – Flooding	Continue to strictly enforce floodplain bylaws and encourage the flood-proofing or relocation of existing structures in floodplain zones	Tougher enforcement of existing bylaws would ensure that properties within a floodplain were properly protected	Town of Lenox	1-3 years / High	Town	Lenox continues to strictly enforce the floodplain bylaws
Prevention – All Hazards	Limit the expansion of infrastructure in hazard-prone areas	Limiting the expansion of infrastructure and development would reduce the future risk of hazards	Town of Lenox	4-6 years/ Medium	Town	Lenox continues to limit the expansion of infrastructure into hazard –prone areas
Prevention, Emergency Services Protection – Flooding	Determine which major transportation routes are in inundation areas for dams of High or Significant Hazard	Determining if the major routes are in an inundation area will allow responders to direct traffic away from the area during a disaster	Town of Lenox, dam owners, MEMA	4-6 years/ Medium	Town	Not Done – the town has not expressed an interest in this since the last plan
Structural Projects –	Continue to prioritize	Improving stormwater	Town of Lenox	4-6 years/ Medium	Dept. of	The town continues

Flooding	and improve stormwater management systems that are located in hazard prone areas or are inadequate	management systems will reduce the risk of localized flooding due to improperly maintained systems or undersized systems			Environmental Protection (DEP)	to review the stormwater system and prioritize its improvements
Prevention – All Hazards	Improve the development fee system to ensure that needed improvement costs are borne by new development	Improving the development fee system will ensure that the town is not paying for upgrades to infrastructure due to the presence of the new development	Town of Lenox	1-3 years / High	Town	Not Done – the town has not expressed an interest in this since the last plan
Prevention - Flooding	Develop bylaws that require on-site containment of stormwater	On-site bylaws will help reduce the amount of runoff and reduce the load on stormwater systems and thus reducing the risk of flooding	Town of Lenox, BRPC	4-6 years/ Medium	Town	Not Done – the town has not expressed an interest in this since the last plan
Prevention - Flooding	Encourage the use of low-impact development techniques, especially in flood-prone areas	Low-Impact development techniques will help eliminate runoff, thus reducing the risk of flooding due to over capacity stormwater systems	Town of Lenox,	4-6 years/ Medium	Town	Not Done – the town has not expressed an interest in this since the last plan
Prevention – Flooding, Dams	Develop an inundation map to accompany the EAP that was recently developed for the Upper & Lower Root Reservoirs	Developing an inundation map will enable the town to more accurately plan for a dam failure	Town of Lenox, Office of Dam Safety	1-3 years/ High	Town	No Action

Prevention – Flooding, Dams	Work with the City of Pittsfield to make sure the Farnham Dam is inspected, in good condition and has an EAP that is on file with both Lenox and Pittsfield EMDs	Ensuring the condition of the dam will prevent failure and subsequent flooding	Town of Lenox, City of Pittsfield, Office of Dam Safety,	1-3 years/ High	Town, City	Pittsfield has kept Farnham Dam inspected and given the inundation map to Lenox
Prevention – All Hazards	Continue to upgrade the main water line out of the reservoirs	Upgrading the water lines will ensure their ability to withstand a disaster	Town of Lenox	1-3 years / High	Town	The town continues to upgrade its water lines as money is available
Prevention – Flooding	Ensure that suspended water lines are protected during a flood event	Protecting the water lines will ensure their ability to withstand a disaster	Town of Lenox	4-6 years/ Medium	Town	The town continues to protect its water lines as money is available
Prevention – Drought	As necessary, explore new groundwater supply options	Obtaining new groundwater supply options will enable the town to better withstand potential droughts	Town of Lenox	1-3 years / High	Town, DEP	The town has conducted a study on water supply needs
Prevention – Drought	Investigate ways to increase water capacity from Pittsfield and Lee	Obtaining access to additional water supplies will enable the town to better withstand potential drought	Lenox, Lee, Pittsfield	1-3 years/ High	Towns, City	The town has discussed water capacity issues with Pittsfield
Public Education – All Hazards	Continue providing information to landowners in hazard-prone areas that discuss hazard mitigation	Better informing landowners in hazard prone areas will improve response of land owners when a disaster occurs	Town of Lenox, MEMA	7-10 years/ Low	Town	No action
Public Education – All Hazards	Conduct local disaster response drills and	Conducting response drills better prepares	Town. Central Berk. Reg. Emerg. Plann. Comm.	4-6 years/ Medium	WRHSAC	The town, through the REPC has

	feature them in local news media	communities for disasters and publicizing the drills raises the public's awareness of the potential hazards	(REPC)			conducted disaster response drills and publicized them in the media
Public Education – All Hazards	Develop and publicize local and regional evacuation routes and shelter locations, adding an online source through the town website	Publicizing local routes and shelters better prepares citizens for disasters	Town of Lenox, REPC	4-6 years/ Medium	WRHSAC	The WRHSAC continues to work to develop a regional evacuation plan
Emergency Services Protection – All Hazards	Develop formal and legally-binding Mutual Aid Agreements for emergency response teams and DPWs	MAA will enable communities to better work together in responding to disasters	Town, REPC, W. Regional Homeland Security Advisory Council (WRHSAC), MEMA	1-3 years/ High	WRHSAC	Completed
Emergency Services Protection – All Hazards	Fill communications gaps by adding new towers where necessary, using existing towers and structure were possible	Filling communication gaps will enable responders to be in contact with each other and allow them to respond more quickly to disasters	Town of Lenox, WRHLSC, REPC	4-6 years/ Medium	WRHSAC	WRHSAC has added/retrofitted several towers to improve emergency communications
Emergency Services Protection – All Hazards	Increase local and regional emergency response training	Improving training will enable responders to handle disasters better	Town of Lenox, WRHLSC, REPC	4-6 years/ Medium	WRHSAC , Vol. Fire Assist.	The town has continued to train for emergency response
Emergency Services Protection – All Hazards	Re-evaluate shelter capacity for Lenox residents and determine each shelter's structural ability to withstand natural disaster events.	Determining shelter capacity and ability to withstand disasters will ensure a community can shelter its citizens during a disaster	Towns of Lenox, Washington, WRHSAC, REPC, School Districts, MEMA	4-6 years/ Medium	Town, WRHSAC	The WRHSAC is evaluating shelters capacity through a regional sheltering plan
Emergency Services	Seek the creation of	Creating additional	Town of Lenox, REPC,	4-6 years/ Medium	Town, WRHSAC	Not Done – the town

Protection – All Hazards	additional shelters where the needs are greatest	shelters to increase capacity will allow more residents to be taken care of during a disaster	MEMA			has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Seek funding to support equipping current shelters, replacing oldest and unusable materials first	Having properly equipped shelters will enable them to be more readily utilized in times of a disaster	Town of Lenox, WRHSAC	4-6 years/ Medium	Town, WRHSAC	New
Emergency Services Protection – All Hazards	Formalize remaining local agreements for use of shared mass care shelters in the event of a disaster	Agreements to share shelters assists communities who do not have enough capacity to shelter their residents during a disaster	Municipalities, Shelters, REPC, MEMA	4-6 years/ Medium	WRHSAC, MEMA	Not Done – the town has not expressed an interest in this since the last plan
Prevention, Property Protection – All Hazards	Determine ability of town governmental centers to withstand a variety of natural hazard events	Ensuring town governmental centers ability to withstand disasters helps maintain response during disasters	Municipalities	4-6 years/ Medium	Town	Not Done – the town has not expressed an interest in this since the last plan
Property Protection, Public Education – All Hazards	Educate local officials to help them develop plans to protect critical documents and materials	Ensuring critical document s and materials are safe during a disaster reduces future risk and confusion after a disaster	Municipalities	4-6 years/ Medium	Town	Not Done – the town has not expressed an interest in this since the last plan
Prevention – All Hazards	Continue reviewing evacuation and emergency plans for local institutions; reach out to those institutions not being reviewed	Ensuring local institutions have evacuation and emergency plans reduces the risk and helps ensure the safety of the employees as	Town of Lenox	4-6 years/ Medium	Town	New

		well as increasing the ability for a institution to survive and reopen after a disaster				
Prevention – All Hazards	Improve record-keeping of local natural disasters and their impacts	Improved record keeping will enable the community to better assess its risk as well as make it more competitive for grants	Department Heads, Town of Lenox	4-6 years/ Medium	Town	Not Done – the town has not expressed an interest in this since the last plan
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town	New

Table 131. Mitigation Action Plan - Monterey

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project, Prevention – Flooding	Commission study to look at the Lake Buel and Lake Garfield flooding issues and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the roads	Town of Monterey, Town of New Marlborough	1-3 years/ High	Towns, FEMA
Structural Project – Flooding	Replace bridge on Wellman Road with a larger bridge to reduce flooding	Improving the bridges capacity for water flow will help reduce flooding	Town of Monterey, MassDOT	4-6 years/ Medium	MassDOT
Structural Project - Flooding	Replace bridge at Robinson Road / Harmon Road with a larger bridge to reduce flooding	Improving the bridges capacity for water flow will help reduce flooding	Town of Monterey, MassDOT	4-6 years/ Medium	MassDOT
Structural Project - Flooding	Replace bridge at Curtis Road with a larger bridge to reduce flooding	Improving the bridges capacity for water flow will help reduce flooding	Town of Monterey, MassDOT	4-6 years/ Medium	MassDOT
Structural Project - Flooding	Install a better drainage system on Fairview Road and pave surface to prevent erosion	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Monterey	4-6 years/ Medium	Town, FEMA
Prevention, Natural Resource Protection – Flooding	Research process and grant funds to remove blockages in waterways caused by trees/stumps/logs/silt	Removing the debris will reduce the risk of damming and subsequent flooding	Town of Monterey, Mass DEP	4-6 years/ Medium	Town, Mass DEP
Prevention - Flooding	Create a floodplain bylaw to control development within the floodplain	Reducing development in the floodplain will reduce potential damage from	Town of Monterey	4-6 years/ Medium	Town

		flooding			
Prevention – Flooding	Create a stormwater bylaw to limit additional discharges into the stormwater system	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of Monterey	4-6 years/ Medium	Town
Structural Project – Flooding	Replace bridges on Beartown Mountain Road with larger bridges to alleviate flooding	Increasing the capacity of the bridge to handle more water will reduce the risk of flooding and the chance to damage to the infrastructure	Town of Monterey, MassDOT	4-6 years / Medium	MassDOT
Property Protection, All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Monterey, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town
Prevention – Flooding	Work on controlling beaver populations throughout town	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town of Monterey	4-6 years / Medium	Town, MSPCA

Table 132. Mitigation Action Plan - New Marlborough

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Prevention – Flooding	Create a stormwater control bylaw to prevent large increases of stormwater being dumped onto public ways	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of New Marlborough	1-3 years/ High	Town
Prevention – Flooding	Amend subdivision regulations and zoning to restrict discharge of stormwater	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of New Marlborough	1-3 years/ High	Town
Structural Project - Flooding	Replace bridge on Hadsell Road with a larger bridge to reduce flooding	Improving the bridges capacity for water flow will help reduce flooding	Town of New Marlborough, MassDOT	4-6 years/ Medium	MassDOT
Structural Project – Flooding	Replace bridge on New Marlborough Southfield Road with a larger bridge to reduce flooding	Improving the bridges capacity for water flow will help reduce flooding	Town of New Marlborough, MassDOT	4-6 years/ Medium	MassDOT
Structural Project - Flooding	Rebuild Hatchery Road with larger culverts	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of New Marlborough	1-3 years/ High	Town, Chapter 90 Road Aid, FEMA
Structural Project, Prevention, Natural Resource Protection - Flooding	Remove sediment in Konkapot River south of Lake Buel to relieve flooding issues	Removing the sediment will increase the flood storage capacity and reduce the risk of flooding	Town of New Marlborough, Town of Monterey	1-3 years/ High	Towns, FEMA, MassDEP

Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of New Marlborough, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town
Prevention – Flooding	Work on controlling beaver activity throughout the entire town, but specifically along the New Marlborough – Monterey Road	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town of New Marlborough, MassDEP	4-6 years/ Medium	Town, Mass DEP, MSPCA
Structural Project – Flooding, Landslide	Strengthen stream banks along Konkapot River where bank erosion along the road is a problem	Strengthening the stream banks will reduce the potential damage to the road	Town of New Marlborough	4-6 years/ Medium	Town, FEMA

Table 133. Mitigation Action Plan - Otis

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project – Flooding	Conduct a study of the Farmington River where it overflows onto Route 8 to determine solutions to flooding and implement findings	Improving the river banks and road stormwater system will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Otis, MassDOT	4-6 year/ Medium	Town, MassDOT, FEMA
Structural Project – Flooding	Replace culverts on Reservoir Road to reduce risk of flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Otis	1-3 years/ High	Town, FEMA
Structural Project – Flooding	Replace bridge on Tannery Road with a larger bridge to allow more water to flow under the bridge	Improving the bridges capacity for water flow will help reduce flooding	Town of Otis, MassDOT	1-3 years/ High	MassDOT
Prevention - Flooding	Conduct beaver control activities in the area around Monterey Road to alleviate flooding	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town of Otis, Mass DEP	4-6 years/ Medium	Town, MSPCA
Structural Project – Flooding	Replace old stone culvert on the Lee-Westfield Road with a larger culvert to reduce flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Otis	7-10 years/ Low	Town, FEMA
Structural Project - Flooding	Conduct a study of West Center Road to determine solution to reduce flooding and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Otis	4-6years/ Medium	Town, FEMA
Structural Project –	Conduct a study of Hayden Pond Dam and	Ensuring the dam is in	Dam Owner, MassDCR	1-3 years / High	Dam Owner, MassDCR

Flooding, Dams	implement findings to improve condition.	good shape will reduce the risk of a failure and subsequent flooding	Dam Safety		Dam Safety
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Otis, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town

Table 134. Mitigation Action Plan - Pittsfield

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project – Flooding, Dams	Work with owner of Bel Air Dam to repair or remove dam	Removing the dam will reduce the change of inundation due to dam failure	Private Owner, Massachusetts Dam Safety	1-3 years/ High	Private Land Owner, State
Structural Project – Flooding, Dams	Continue working with owner of Tel Electric Pond Dam to remove dam	Removing the dam will reduce the change of inundation due to dam failure	Private Owner, Massachusetts Dam Safety	4-6 years/ Medium	Private Land Owner, State
Prevention – Flooding, Dams	Work with owner of Richmond Pond dam to improve condition	Ensuring the dam is in good shape will reduce the risk of a failure and subsequent flooding	Private Owner, Massachusetts Dam Safety	7-10 years/ Low	Private Land Owner, State
Structural Project – Flooding	Obtain city easement, replace the culvert on Upper North Street to eliminate flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	City of Pittsfield	4-6 years/ Medium	City, FEMA
Prevention - Flooding	Monitor and continue to work with the owners of Pittsfield Plaza to properly maintain stormwater structures	Ensuring the stormwater system works properly will reduce the risk of flooding	Private Owners	4-6 years/ Medium	Private Land Owner
Structural Project, Prevention - Flooding	Finish, maintain and monitor the improvements to the Oak Hill Tributary	Completing the improvements will reduce the risk of flooding	City of Pittsfield	1-3 years / High	City
Structural Project - Flooding	Build the new stormwater control system for Wahconah Park	Improving the stormwater system will reduce the risk of flooding	City of Pittsfield	1-3 years/ High	City, FEMA

Prevention – Flooding	Implement a beaver control program city-wide	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	City of Pittsfield	1-3 years/ High	City, MSPCA
Structural Project - Flooding	Enlarge or improve ditch parallel to Upper North Street to reduce flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	City of Pittsfield	4-6 years/ Medium	City, FEMA
Structural Project - Flooding	Design and implement new stormwater system around Elm and Newell Streets	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the roads	City of Pittsfield, Private Land Owners	4-6 years/ Medium	City, FEMA
Structural Project - Flooding	Design and implement improvements to the stormwater system on Plum and Holmes Roads	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the roads	City of Pittsfield	4-6 years/ Medium	City, FEMA
Structural Project - Flooding	Continue to work with DEP to implement a drainage plan for Marchesio Park	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the park	City of Pittsfield	1-3 years/ Medium	City
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Continue working with utility companies to proactively trim trees and to better respond to emergencies	Removing the trees and branches around utility lines will reduce the risk of power failure during storms	City of Pittsfield, WMECO	1-3 years / High	City, WMECO

Structural Project – Flooding	Redesign the culverts on Dan Casey Causeway	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	City of Pittsfield	7-10 years/ Low	City, FEMA
Prevention – Flooding	Beavers are currently damming the spillway of the upper dam and the stream channel below the dam. The beavers need to controlled to prevent damage to the dam or lead to dam failure.	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	City of Pittsfield	4-6 years / Medium	City, MSPCA
Prevention – Wildfire	Work with state and land owners to remove debris from areas prone to wildfires	Clearing the debris from the forests will help in reducing the chance of wildfire	City of Pittsfield, State	4-6 years / Medium	City, DCR, Private Land Owners
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	City of Pittsfield, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	City

Table 135. Mitigation Action Plan - Richmond

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project – Flooding	Replace culverts along Steven's Glen Road, Dean Hill Road and West Roads with larger culverts to reduce risk of flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the roads	Town of Richmond	4-6 years/ Medium	Town funding, FEMA
Prevention, Natural Resource Protection – Flooding	Work with Conservation Commission to establish procedure to establish procedures for streamlined and expedited permitting for stormwater control features	Expedited permitting of stormwater control features will allow for a quicker remediation of existing problems	Town of Richmond	1-3 years/ Medium	Town funding
Prevention, Structural Project - Flooding	Get easements for undeveloped areas which have or need stormwater swales	Obtaining easements will allow the town to install stormwater swales to better control stormwater and reduce flooding	Town of Richmond	4-6 years/ Medium	Town funding
Prevention – Flooding	Create and Implement a stormwater control bylaw to reduce flooding potential due to new development	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of Richmond	1-3 years/ High	Town funding
Prevention - Flooding	Work with Planning Board to be more involved in building process and implementation of stormwater systems	Including the planning board in the building process will enable them to	Town of Richmond	4-6 years/ Medium	Town funding

		ensure stormwater is kept on site and reduce the risk of flooding.			
Prevention – Flooding, Dams	Work with the City of Pittsfield and the Richmond Pond Dam owner to improve the condition of the Richmond Pond dam	Ensuring the dam is in good shape will reduce the risk of a failure and subsequent flooding	Town of Richmond, City of Pittsfield, Private Dam Owner	4-6 years/ Medium	Town funding, City funding, DCR Dam Safety
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Work with utility companies to better improve proactive tree trimming and emergency response	Removing the trees and branches around utility lines will reduce the risk of power failure during storms	Town of Richmond, Utility Companies	1-3 years/ High	Town funding
Prevention, Natural Resource Protection - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Work with Tree Warden and DPW to identify and prioritize problem trees	Identifying and proactively dealing with problem trees can reduce damage during a disaster and help ensure power is maintained/	Town of Richmond	7-10 years / Low	Town funding
Prevention – Wildfire	Work with private land owners to remove woody debris from higher risk fire areas	Clearing the debris from the forests will help in reducing the chance of wildfire	Town of Richmond	7-10 years / Low	Town funding, Private land owners
Public Education – Flooding	Educate the public on the benefits of stormwater systems and responsibilities of owners to keep system clear	Educating the public will allow them to understand why stormwater systems need to be maintained and how it will help protect their property	Town of Richmond	7-10 years/ Low	Town funding
Property Protection –	Identify historic structures, businesses and critical	Identifying historic	Town of RIchmond,	4-6 years/ Medium	Town

Flooding, Dams	facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	MEMA, Massachusetts Historical Commission		

Table 136. Mitigation Action Plan - Sandisfield

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Prevention – Flooding	Adopt stormwater control bylaw to prevent large increases of stormwater being dumped into public ways	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of Sandisfield	1-3 Years/ High	Town funding
Prevention - Flooding	Amend subdivision regulations / zoning to restrict discharges of stormwater	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of Sandisfield	1-3 years/ High	Town funding
Structural Project – Flooding	Replace culverts on Hammertown and Silverbrook Roads with larger culverts to reduce flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the roads	Town of Sandisfield	1-3 years/ High	Town funding, FEMA
Prevention – Flooding	Develop and Implement a stormwater / culvert maintenance schedule	Properly maintaining the stormwater system will reduce the risk of flooding and damage to the infrastructure	Town of Sandisfield	1-3 years / High	Town funding
Structural Project - Flooding	Redo New Hartford Road to repair surface and structural damage caused by surface water and to install drainage systems to keep water off road	Improving the drainage will reduce the risk of flooding	Town of Sandisfield	4-6 years/ Medium	Town funding, FEMA

		and reduce the cost of maintaining the road			
Structural Project - Flooding	Improve drainage on Perry Road	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Sandisfield	4-6 years/ Medium	Town funding, FEMA
Prevention – Flooding, Dams	Regularly inspect Hammertown Road dam	Ensuring the dam is in good shape will reduce the risk of a failure and subsequent flooding	DCR Dam Safety	1-3 years / High	DCR Dam Safety, Dam Owner
Structural Project - Flooding	Conduct study of Sandisfield Road to determine flood control needs and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Sandisfield	4-6 years/ Medium	Town funding, FEMA
Structural Project - Flooding	Install drainage system on New Hartford Road	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Sandisfield	4-6 years/ Medium	Town funding, FEMA
Prevention, Natural Resource Protection – Flooding	Research process and funding to remove fallen trees, logs, stumps, branches from streams to prevent flooding	Removing debris from waterways will help prevent the damming of the debris and potential flooding	Town of Sandisfield	4-6 years/ Medium	Town funding
Prevention - Wildfire	Remove excess dry timber in the surrounding forest land and complete work of clearing widow makers	Clearing the debris from the forests will help in reducing the chance of wildfire	Town of Sandisfield	4-6 years/ Medium	Town funding, FEMA

Structural Project - Flooding	Pave sections of roads that are at risk of erosion, flooding and washouts.	Paving the roads will reduce the erosion, preventing flooding and washouts and lowering the cost of maintenance	Town of Sandisfield	1-3 years/ High	Town funding, FEMA
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Sandisfield, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town

Table 137. Mitigation Action Plan - Sheffield

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project – Flooding	Install relief culverts on Lime Kiln Road to reduce risk of flooding	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Sheffield	1-3 years/ High	Town funding, FEMA
Structural Project – Flooding, Landslide	Install rip rap on Rannapo Road to stabilize bank that is being eroded by the Housatonic River	Installing rip rap will stabilize the bank, which will prevent damage to the road	Town of Sheffield	1-3 years/ High	Town funding, FEMA
Structural Project – Flooding	Continue working with MassDOT to reduce flooding along Route 7	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Sheffield, MassDOT	1-3 years / High	Town funding, FEMA, MassDOT
Structural Project – Landslide	Stabilize the bank on County Road to prevent landslides onto the Road	Stabilizing the banks will prevent landslides, reducing the cost of maintenance and potential damage	Town of Sheffield	4-6 years/ Medium	Town funding, FEMA
Structural Project – Landslide	Work with the Trustees of Reservations to stabilize the banks along Wheatogue Road	Stabilizing the banks will prevent landslides, reducing the cost of maintenance and potential damage	Town of Sheffield, The Trustees of Reservations	4-6 years/ Medium	Town funding, TTOR, FEMA
Structural Project – Flooding	Conduct a study of the flooding on Rannapo and Weatogue Roads and implement findings	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Sheffield	4-6years / Medium	Town funding, FEMA
Prevention - Flooding	Review existing bylaws and update to ensure inclusion of stormwater control and best management practices.	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of Sheffield	4-6 years / Medium	Town funding

Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Sheffield, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town

The Town of Stockbridge's Action Plan is an update from their 2005 Hazard Mitigation Plan. All actions have been reviewed and updated. The status of the actions from the 2005 plan has been included

Table 138. Mitigation Action Plan - Stockbridge

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding	Status from 05 or New
Prevention – Flooding	Incorporate new FEMA floodplain data and maps into existing and future planning efforts.	New FEMA maps would be more accurate and allow for a more accurate assessment of the flooding risk	Town of Stockbridge, MEMA	4-6 years/ Medium	NA	No Action – FEMA has not prioritized this region for new maps, thus no funding has been allocated for it.
Prevention – Flooding	Continue to strictly enforce floodplain bylaws and encourage the flood-proofing or relocation of existing structures in floodplain zones	Tougher enforcement of existing bylaws would ensure that properties within a floodplain were properly protected	Town of Stockbridge	1-3 years / High	NA	The town continues to enforce floodplain bylaws
Prevention – All Hazards	Limit the expansion of infrastructure in hazard-prone areas	Limiting the expansion of infrastructure and development would reduce the future risk of hazards	Town of Stockbridge	1-3 years / Medium	NA	The town continues to limit the expansion of infrastructure in hazard-prone areas
Prevention – Flooding	Consider expanding the no-disturb zone in the LPOD from 35' to 50' or greater	Increasing the no-disturb zone will reduce the risk of flooding	Town of Stockbridge	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Prevention – Flooding	Insure the integrity of large beaver dams or breach them in a controlled manner	Large beaver dams can cause significant damage if they fail. Insuring their integrity will help to reduce the risk of flooding	Town of Stockbridge, Mass. Fish & Game (F&G)	4-6 years/ Medium	MSPCA	The town monitors beaver dams to ensure their integrity
Prevention - Flooding	Continue to work with Mass. Fish & Game to	Permanent measures for minimizing beaver	Town of Stockbridge, F&G	4-6 years/ Medium	MSPCA	The town used Beaver Solutions to

	investigate permanent measures to minimize beaver impacts	impacts would reduce the risk of flooding				control beaver populations
Prevention – Flooding	Continue to partner with Beaver Solutions to control flooding	Making beaver deterent devices more affordable would allow more municipalities to utilize them, decreasing the risk of flooding	Town of Stockbridge, F&G	4-6 years/ Medium	MSPCA	The town continues to use Beaver Solutions to control beaver populations
Prevention – Flooding	Determine which major transportation routes are in inundation areas for dams of High or Significant Hazard	Determining if the major routes are in an inundation area will allow responders to direct traffic away from the area during a disaster	Town of Stockbridge, dam owners, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Structural Projects – Flooding	Continue to pursue roadway improvements to minimize flooding and erosion	Improving roadways to minimize flooding and erosion will reduce the cost of maintenance of the roadway and reduce potential damage	Town of Stockbridge	4-6 years/ Medium	PDM	The town continues to pursue roadway improvements to reduce flooding and erosion
Structural Projects – Flooding	Continue to prioritize and improve stormwater management systems that are located in hazard prone areas or are inadequate	Improving stormwater management systems will reduce the risk of localized flooding due to improperly maintained systems or undersized systems	Town of Stockbridge	4-6 years/ Medium	Dept. of Environmental Protection (DEP)	The town continues to improve stormwater systems as problems occur or as roads are improved
Prevention - Flooding	Develop bylaws that require on-site containment of stormwater	On-site bylaws will help reduce the amount of runoff and reduce the load on stormwater systems	Town of Stockbridge, BRPC	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan

		and thus reducing the risk of flooding				
Prevention – Flooding	Encourage the use of low-impact development techniques, especially in flood-prone areas	Low-Impact development techniques will help eliminate runoff, thus reducing the risk of flooding due to over capacity stormwater systems	Town of Stockbridge,	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Prevention – Wildfire	Work with Housatonic Railroad to remove woody debris around tracks	Removing the woody debris around the tracks will reduce the risk of wildfire	Town of Stockbridge, Housatonic Railroad	4-6 years / Medium	NA	New
Prevention – Flooding, Dam	Develop an EAP for Stockbridge Bowl Dam.	An EAP will help the community be better prepared for a failure of the dam	Town of Stockbridge, Dept. of Conservation and Recreation (dam owner), Office of Dam Safety,	4-6 years/ Medium	NA	Complete
Prevention – Flooding, Dam	Procure inundation maps and conduct loss estimates for inundation areas	An EAP for each dam will allow the community to better prepare for a potential dam failure	Town of Stockbridge, dam owners	4-6 years/ Medium	NA	No Action
Prevention – Flooding, Dam	Work with the Office of Dam Safety to upgrade the condition listing for Averic Lake and Stockbridge Bowl dams	Improving the condition of the dams will reduce the risk of failure and thus flooding	Town of Stockbridge, DCR Office of Dam Safety	4-6 years/ Medium	NA	The town is working with Dam Safety to improve the condition of the dam
Public Education – All Hazards	Provide leaflets to landowners in hazard-prone areas that discuss hazard mitigation	Better informing landowners in hazard prone areas will improve response of land owners when a disaster occurs	Town of Stockbridge, MEMA	7-10 years/ Low	NA	Not Done – the town has not expressed an interest in this since the last plan

Public Education – Flooding	Inform property owners in the floodplain about grant programs available to retrofit and/or flood proof structures	Informing property owners about grants will enable them to better protect their homes	Town of Stockbridge, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Conduct local disaster response drills and feature them in local news media	Conducting response drills better prepares communities for disasters and publicizing the drills raises the public's awareness of the potential hazards	Town of Stockbridge, Regional Emergency Planning Committees (REPCs)	4-6 years/ Medium	Homeland Security	The town has conducted response drills through the REPC
Public Education – All Hazards	Develop and publicize local and regional evacuation routes and shelter locations	Publicizing local routes and shelters better prepares citizens for disasters	Town of Stockbridge, REPCs	4-6 years/ Medium	Homeland Security	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Develop formal and legally-binding Mutual Aid Agreements for emergency response teams and DPWs	MAA will enable communities to better work together in responding to disasters	Town, REPCs, W. Region Homeland Security Advisory Council (WRHSASC), MEMA	7-10 years/ Low	Homeland Security	Completed
Emergency Services Protection – All Hazards	Fill communications gaps by adding new towers where necessary, using existing towers and structure were possible,	Filling communication gaps will enable responders to be in contact with each other and allow them to respond more quickly to disasters	Town of Stockbridge, WRHSAC, REPCs	4-6 years/ Medium	Homeland Security	The WRHSAC has added/renovated towns to improve communications
Emergency Services Protection – All Hazards	Increase local and regional emergency response training	Improving training will enable responders to handle disasters better	Town of Stockbridge, WRHSAC, REPCs	4-6 years/ Medium	Homeland Sec. - Vol. Fire Assist.	The town continues to train for emergency response

Emergency Services Protection – All Hazards	Re-evaluate shelter capacity for Stockbridge residents and determine each shelter's structural ability to withstand natural disaster events, including the Town Hall	Determining shelter capacity and ability to withstand disasters will ensure a community can shelter its citizens during a disaster	Towns of Stockbridge, Washington, WRHSAC, REPCs, School Districts, MEMA	1-3 years/ High	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Investigate Kripalu, Desisto School and Berkshire Country Day School as potential shelters	Creating additional shelters to increase capacity will allow more residents to be taken care of during a disaster	Municipalities, School Districts, REPC, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Expand and formalize local agreements for use of shared mass care shelters in the event of a disaster	Agreements to share shelters assists communities who do not have enough capacity to shelter their residents during a disaster	Municipalities, Shelters, REPC, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Investigate option of shared regional shelters with neighboring Lenox and Great Barrington	Sharing shelters with neighboring towns may help reduce the cost and make the shelters more effective and better managed	Municipalities, Shelters, REPC, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection, Property Protection – All Hazards	Determine ability of town governmental centers to withstand a variety of natural hazard events	Ensuring town governmental centers ability to withstand disasters helps maintain response during disasters	Municipalities	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection, Public Education – All Hazards	Educate local officials to help them develop plans to protect critical documents and	Ensuring critical document s and materials are safe during a disaster	Municipalities	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan

	materials	reduces future risk and confusion after a disaster				
Prevention – All Hazards	Improve record-keeping of local natural disasters and their impacts	Improved record keeping will enable the community to better assess its risk as well as make it more competitive for grants	Town of Stockbridge	1-3 years / High	NA	Not Done – the town has not expressed an interest in this since the last plan
Prevention, Property Protection – All Hazards	Revive the Stockbridge Cultural Alliance and identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Stockbridge, REPC, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Public Education, Property Protection – All Hazards	Provide workshops to help local historic properties and businesses to develop disaster mitigation plans for their facilities	Providing education and workshops to local businesses and institutions will enable them to be better prepared for future hazards	Town of Stockbridge, MEMA, Chamber of Commerce, Historical Commission	4-6 years/ Medium	Mass. Historical Commission	Not Done – there has not been an interest by businesses

The Town of Tyringham's Action Plan is an update from their 2005 Hazard Mitigation Plan. All actions have been reviewed and updated. The status of the actions from the 2005 plan has been included

Table 139. Mitigation Action Plan - Tyringham

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding	Status from 05 or New
Property Protection, Emergency Services Protection – Flooding	Retrofit the town hall and the Highway Department to protect from flooding	Protecting the town hall and highway department will ensure access to the facilities in times of a disaster	Town of Tyringham	1-3 years/ High	PDM	New
Prevention – Flooding	Request that FEMA recalculate and delineate the 100-year floodplain for Tyringham, using new computer-generated floodplain data	New FEMA maps would be more accurate and allow for a more accurate assessment of the flooding risk	Town of Tyringham, Mass. Emergency Management Agency (MEMA)	1-3 years / High	NA	No Action – FEMA has not prioritized this region for new flood maps, therefore no funding has been allocated for it.
Prevention – Flooding	Strictly enforce the Tyringham Flood Plain Bylaw	Tougher enforcement of existing bylaws would ensure that properties within a floodplain were properly protected	Town of Tyringham, Berkshire Regional Planning Commission (BRPC)	1-3 years / High	NA	The town continues to enforce the floodplain bylaw
Prevention – All Hazards	Limit the expansion of infrastructure in hazard-prone areas	Limiting the expansion of infrastructure and development would reduce the future risk of hazards	Town of Tyringham	4-6 years / Medium	NA	The town continues to limit the expansion in hazard-prone areas
Prevention – Flooding	Insure the integrity of large beaver dams or breach them in a controlled manner	Large beaver dams can cause significant damage if they fail. Insuring their integrity will help to reduce the risk of flooding	Town of Tyringham, Mass. Fish & Game (F&G)	1-3 years / High	MSPCA	The town monitors beaver dams
Prevention - Flooding	Continue to work with	Permanent measures	Town of Tyringham, F&G	1-3 years / High	MSPCA	The town has worked

	Mass. Fish & Game to investigate permanent measures to minimize beaver impacts	for minimizing beaver impacts would reduce the risk of flooding				with F&G on beaver control
Prevention - Flooding	Investigate the cost of hiring a private contractor to install and maintain beaver control devices	Making beaver deterrent devices more affordable would allow the town to utilize them, decreasing the risk of flooding	Town of Tyringham, F&G	1-3 years / High	MSPCA	The town has investigated using Beaver Solutions, but has not used them
Property Protection, Emergency Services Protection – Flooding	Investigate possible protection measures to protect the firehouse from flood events	Protecting the firehouse during a flood event will ensure access to the facilities in times of a disaster	Town of Tyringham,	4-6 years/ Medium	FMA, PDM	No Action – due to financial constraints, the town has not pursued this.
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Work with the utilities to ensure power lines are clear of debris throughout town, but especially around Goose Pond and areas over 1000 feet	Ensuring the powerlines are clear of debris will reduce the risk of power loss due to downed limbs	Town of Tyringham, Utility Companies	1-3 years / High	NA	The utilities continue to work to improve debris around utility lines
Public Education, Prevention – Flooding, Dams	Send letter to dam owners informing them of their inspection and maintenance responsibilities.	Educating dam owners about their responsibilities will help them in better maintaining their dams	Town of Tyringham	Completed August 2005/ High	NA	Completed
Prevention – Flooding, Dams	Work with the owner of the Shaker Pond dam to develop an EAP	An EAP will enable the town to better prepare for a potential failure and subsequent flooding	Town, dam owner, Office of Dam Safety within the Dept. of Conservation and Recreation (DCR),	1-3 years/ High	NA	No Action
Prevention – Flooding, Dams	Work with the owner of the South House dam to get the dam inspected	Ensuring the condition of the dam will reduce the risk of failure and	Town, dam owner	1-3 years/ High	NA	The town has worked with the dam owner to get it inspected

	and categorized and to ensure that it is in good condition	subsequent flooding				
Public Education – All Hazards	Provide leaflets to landowners in hazard-prone areas that discuss hazard mitigation	Better informing landowners in hazard prone areas will improve response of land owners when a disaster occurs	Town of Tyringham, MEMA	7-10 years/ Low	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection, Public Education – All Hazards	Conduct local disaster response drills and feature them in local news media	Conducting response drills better prepares communities for disasters and publicizing the drills raises the public's awareness of the potential hazards	Town of Tyringham, Regional Emergency Planning Committees (REPC)	4-6 years/ Medium	Homeland Security	The town has worked with the REPC to conduct emergency response drills
Public Education – All Hazards	Develop and publicize local and regional evacuation routes and shelter locations	Publicizing local routes and shelters better prepares citizens for disasters	Town of Tyringham, REPC	4-6 years/ Medium	Homeland Security	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Develop formal and legally-binding Mutual Aid Agreements for emergency response teams and DPWs	MAA's will enable communities to better work together in responding to disasters	Town, REPC, W. Region Homeland Security Advisory Council (WRHSAC), MEMA	1-3 years/ High	Homeland Security	Complete
Emergency Services Protection – All Hazards	Increase local and regional emergency response training	Improving training will enable responders to handle disasters better	Town of Tyringham, WRHLSC, REPC	4-6 years/ Medium	Homeland Security Volunteer Fire Assistance	The town has continued to get training in emergency reponse
Emergency Services Protection, Property Protection – All Hazards	Re-evaluate shelter capacity for Tyringham residents and determine each shelter's structural ability to withstand natural disaster events.	Determining shelter capacity and ability to withstand disasters will ensure a community can shelter its citizens during a disaster	Towns of Tyringham, Lee & Otis, WRHLSC, REPC, School Districts, MEMA	4-6 years/ Medium	NA	The WRHSAC is working to create regional shelter plans which will determine needs

Emergency Services Protection – All Hazards	Seek the creation of additional shelters where the needs are greatest	Creating additional shelters to increase capacity will allow more residents to be taken care of during a disaster	Town of Tyringham, School Districts, REPC, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Expand and formalize local agreements for use of shared mass care shelters in the event of a disaster	Agreements to share shelters assists communities who do not have enough capacity to shelter their residents during a disaster	Town of Tyringham, Shelters, REPC, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection, Property Protection – All Hazards	Determine ability of town governmental centers to withstand a variety of natural hazard events, most notably flooding	Ensuring town governmental centers ability to withstand disasters helps maintain response during disasters	Town of Tyringham	4-6 years/ Medium	NA	No Action – the town does not have the funding for this
Emergency Services Protection – All Hazards	Conduct inventory and prioritization of vital files and equipment that should be protected from loss during disaster	Protecting vital files and equipment from a loss will ensure the continuation of operations	Tyringham office administrators, EMD, Fire & Police	1-3 years / High	NA	Complete
Emergency Services Protection – All Hazards	Conduct training drill for removal of vital files and equipment	Training on removal of vital files and equipment will ensure the files are not lost during a disaster	Tyringham office administrators, EMD, Fire & Police	1-3 years / High	NA	Not Done – the town has not expressed an interest in this since the last plan
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared	Town of Tyringham, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town	New

	areas.	for the hazards and to prevent their loss				

Table 140. Mitigation Action Plan - Washington

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding
Structural Project – Flooding	Conduct hydrological study of Depot Brook off of Frost Road to address chronic flooding problem and implement findings, including the replacement of the bridge.	Replacing the bridge and implementing other findings will reduce the flooding and potential damage	Town of Washington	1-3 years/ High	Town funding, FEMA
Structural Project – Flooding	Construct larger bridges and replace collapsing headwalls on Cross Place Road.	Improving the capacity of the bridge to handle larger water flows will reduce the risk of flooding	Town of Washington	1-3 years/ High	Town funding, FEMA, MassDOT
Prevention - Flooding	Adopt a stormwater bylaw to control new additions of water to the stormwater system	A stormwater control bylaw will help reduce the amount of new stormwater flowing off site onto roads and streams, reducing the risk of flooding	Town of Washington	4-6 years/ Medium	Town funding
Structural Project – Flooding	Install drainage system and regrade Upper Sargent Road to reduce washouts	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Washington	4-6 years/ Medium	Town funding, FEMA
Structural Project – Flooding	Install drainage system and regrade Schulze Road to reduce washouts	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Washington	4-6 years/ Medium	Town funding, FEMA
Prevention - Flooding	Continue using beaver control methods to reduce the risk of flooding	Using beaver control solutions to control the beaver population will reduce or eliminate the risk of flooding	Town of Washington	4-6 years/ Medium	Town funding, MSPCA

Structural Project – Flooding, landslide	Replace culvert on Cross Place Road with headwall to prevent further erosion of the stream bank	Improving the drainage will reduce the risk of flooding and reduce the cost of maintaining the road	Town of Washington	4-6 years/Medium	Town funding, FEMA
Prevention - Winter Storms, Severe Storms, Hurricane & Tropical Storms	Work with utility companies to ensure power lines are clear of branches in wind and snow prone areas	Ensuring the power lines are clear will enable electricity to continue to flow to houses during a disaster	Town of Washington, Utilities	4-6 years / Medium	Town, Utilities
Prevention - Wildfire	Work with CSX to remove woody debris around tracks	Removing the woody debris will reduce the risk of wildfires	Town of Washington, CSX	4-6 years / Medium	Town, CSX
Property Protection – All Hazards	Identify historic structures, businesses and critical facilities located in hazard-prone areas, including floodplains and dam failure inundation areas.	Identifying historic structures, businesses and critical facilities in floodplain and inundation areas will enable those facilities to be better prepared for the hazards and to prevent their loss	Town of Washington, MEMA, Massachusetts Historical Commission	4-6 years/ Medium	Town

The Town of Williamstown's Action Plan is an update from their 2005 Hazard Mitigation Plan. All actions have been reviewed and updated. The status of the actions from the 2005 plan has been included

Table 141. Mitigation Action Plan - Williamstown

Category of Action	Description of Action	Benefit	Implementation Responsibility	Timeframe / Priority	Resources / Funding	Status from 05 or New
Prevention - Flooding	Incorporate new FEMA 100-year floodplain data and maps into existing and future planning efforts.	New FEMA maps would be more accurate and allow for a more accurate assessment of the flooding risk	FEMA	4-6 years/ Medium	NA	No Action – FEMA has not prioritized this region for new flood maps, therefore there is no funding for the maps.
Prevention – Flooding	Continue to strictly enforce 100-year floodplain bylaws and encourage the flood-proofing or relocation of existing structures in 100-year floodplain zones	Tougher enforcement of existing bylaws would ensure that properties within a floodplain were properly protected	Town of Williamstown	1-3 years / High	NA	The town continues to strictly enforce the floodplain bylaw
Prevention – Flooding	Continue to limit the expansion of infrastructure in hazard-prone areas	Limiting the expansion of infrastructure and development would reduce the future risk of hazards	Town of Williamstown	4-6 years/ Medium	NA	The town continues to limit the expansion into hazard-prone areas
Prevention – Flooding	Insure the integrity of large beaver dams or breach them in a controlled manner	Large beaver dams can cause significant damage if they fail. Insuring their integrity will help to reduce the risk of flooding	Board of Health, Division of Fish & Wildlife, Williamstown Conservation Commission	1-3 years / High	MSPCA	The town has worked to ensure the integrity of beaver dams
Prevention - Flooding	Continue to work with Mass. Fish & Game to investigate permanent measures to minimize	Permanent measures for minimizing beaver impacts would reduce the risk of flooding	Town of Williamstown, F&G	1-3 years / High	MSPCA	No action due to lack of interest

	beaver impacts					
Prevention – Flooding, Dams	Determine which major transportation routes are in inundation areas for dams of High or Significant Hazard	Determining if the major routes are in an inundation area will allow responders to direct traffic away from the area during a disaster	Town of Williamstown, MassHighway, dam owners, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Structural Projects - Flooding	Continue to prioritize and improve stormwater management systems that are located in hazard prone areas or are inadequate	Improving stormwater management systems will reduce the risk of localized flooding due to improperly maintained systems or undersized systems	Town of Williamstown	4-6 years/ Medium	Dept. of Environmental Protection (DEP)	The town continues to improve stormwater systems as roads are repaired and systems fail
Prevention – Flooding	Develop bylaws that require on-site containment of stormwater for new development	On-site bylaws will help reduce the amount of runoff and reduce the load on stormwater systems and thus reducing the risk of flooding	Town of Williamstown, BRPC	4-6 years/ Medium	NA	Completed
Prevention - Flooding	Continue working on bylaw development requiring the use of low-impact development techniques, especially in flood-prone areas (as part of a comprehensive new stormwater bylaw)	Low-Impact development techniques will help eliminate runoff, thus reducing the risk of flooding due to over capacity stormwater systems	Town of Williamstown, Planning Board and Planning Department	4-6 years/ Medium	NA	The town continues to review LID techniques for consideration into future bylaws
Prevention, Emergency Services Protection – Flooding, Dams	Update an EMERGENCY ACTION PLAN (EAP) for Williamstown Reservoir Dam, and encourage the City of North Adams	EAPs enable the community to be better prepared in case of disasters	Town of Williamstown City of North Adams	1-3 years/ High	NA	Not Done – the town has not had the funding to complete this

	to develop an EAP for, and inspect the, Mt. Williams Reservoir.					
Public Education – All Hazards	Continue to have information available for landowners in hazard-prone areas that discuss hazard mitigation (using Berkshire County Board of Health's brochures); utilize the Town website for publishing information.	Better informing landowners in hazard prone areas will improve response of land owners when a disaster occurs	Morgan Management (Owner of The Spruces),Town of Williamstown, MEMA	7-10 years/ Low	Morgan Management	The town has worked to better educate landowners on the risk of natural hazards
Emergency Services Protection, Public Education – All Hazards	Conduct local disaster response drills and feature them in local news media, focusing on the Spruces Mobilehome Park	Conducting response drills better prepares communities for disasters and publicizing the drills raises the public's awareness of the potential hazards	Morgan Management (Owner of The Spruces)Town of Williamstown, Local Emergency Planning Committees (LEPCs)	4-6 years/ Medium	Homeland Security	No Action
Emergency Services Protection, Public Education – All Hazards	Develop and publicize local and regional evacuation routes and shelter locations; utilize the town website for publishing information.	Publicizing local routes and shelters better prepares citizens for disasters	Town of Williamstown, LEPCs	4-6 years/ Medium	Homeland Security	Not Done – the town has not expressed an interest in this since the last plan
Emergency Services Protection – All Hazards	Develop formal and legally-binding Mutual Aid Agreements for emergency response teams and DPWs as necessary	MAA's will enable communities to better work together in responding to disasters	Town, LEPCs – Central Berkshire, Western Massachusetts Regional Homeland Security Council (WRHLSC), MEMA	1-3 years/ High	Homeland Security	Completed
Emergency Services Protection – All Hazards	Continue to fill communications gaps by adding new towers	Filling communication gaps will enable responders to be in	Town of Williamstown, WRHLSC, LEPCs	4-6 years/ Medium	Homeland Security	The WRHSAC has added / renovated towers to improve

	where necessary, using existing towers and structure were possible.	contact with each other and allow them to respond more quickly to disasters				communication gaps
Emergency Services Protection, Property Protection – All Hazards	Continue evaluating shelter capacity for Williamstown residents and determine each shelter's structural ability to withstand natural disaster events.	Determining shelter capacity and ability to withstand disasters will ensure a community can shelter its citizens during a disaster	Town of Williamstown, WRHLSC, LEPCs, School Districts, MEMA	4-6 years/ Medium	NA	The WRHSAC is creating a shelter plan for the region and shelter evaluation will be included
Emergency Services Protection – All Hazards	Review local agreements for use of shared mass care shelters in the event of a disaster	Agreements to share shelters assists communities who do not have enough capacity to shelter their residents during a disaster	Municipalities, Shelters, SBREPC, MEMA	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Property Protection – All Hazards	Determine ability of town governmental centers to withstand a variety of natural hazard events	Ensuring town governmental centers ability to withstand disasters helps maintain response during disasters	Municipalities CEMP plan addresses these concerns	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Prevention – All Hazards	Educate local officials to help them develop plans to protect critical documents and materials	Ensuring critical document s and materials are safe during a disaster reduces future risk and confusion after a disaster	Municipalities	4-6 years / Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Prevention – All Hazards	Improve record-keeping of local natural disasters and their impacts	Improved record keeping will enable the community to better assess its risk as well as make it more competitive for grants	Department Heads, Town of Williamstown; DPW uses standard MEMA/FEMA format for reporting losses	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan

Prevention – All Hazards	As necessary, update historic structures, businesses and critical facilities located in hazard-prone areas, including 100-year floodplains and dam failure inundation areas.	Updating facilities to be able to withstand disasters enables the facilities to reduce their risk of damage	Town of Williamstown, CBREPC, MEMA, WRHSC, Williamstown Fire District	4-6 years/ Medium	NA	Not Done – the town has not expressed an interest in this since the last plan
Structural Projects - Flooding	Install accessible dry hydrants in needed areas.	Installing dry hydrants will reduce flooding problems due to stormwater	Williamstown, Williamstown Fire District	1-3 years / High	NA	No Action – the town has not had the funding to complete this

Plan Adoption and Maintenance

Monitoring, Evaluating and Updating the Plan

In order for the *Berkshire County Hazard Mitigation Plan* to be successful, it is required that the plan is monitored, evaluated, and updated on a regular basis. It is therefore necessary to include procedures for maintaining and updating this plan.

Because the Berkshire Regional Planning Commission was given the task of preparing this plan, the Commission will take the lead in monitoring its implementation and coordinating the required updates.

1. The Commission will work with local partners to update this plan five years from its adoption, as resources allow, with the next update being due during in 2017. Work on the update of the plan will begin at the beginning of 2015. BRPC will be applying to FEMA Pre-disaster mitigation grant program in 2013 for funding to update this plan. The update will focus on evaluating the success and failure of this plan. BRPC will work with the communities to determine if any new information relating to new or changing hazard conditions or improved vulnerability assessment will be added. The BRPC will research additional hazards data and determine if it gets incorporated into the plan. The action items will be reviewed for accomplishments, successes will be noted, and new action items will be added as necessary. Outreach to municipalities, private individuals, and interested organizations will continue. The BRPC will post a copy of this plan on its website allowing the public to submit feedback. The BRPC will also encourage their communities to post a link to the plan on their websites as well as to regularly review their portions of the plan to determine if anything needs to be updated. Local communities will be encouraged to provide updates to their constituents through their annual report, updates on their websites and bill inserts.

2. The BRPC will host yearly Hazard Mitigation meetings to discuss the status of hazard mitigation in the region. These meetings will be open to the public and advertised in local media as well as BRPC and the communities' websites. Input received at these meetings will be incorporated in the next plan update.

3. The BRPC will continue to distribute Hazard Mitigation related material to its communities, using the contacts detailed in Table 142, Community Contacts.

4. Should Berkshire County experience a disaster, the plan shall be evaluated and updated to reflect findings from that experience. These findings will be evaluated against the inventory, assessments, and action items of this plan. The BRPC and the TAC, working through the REPCs, shall update the plan to accommodate the changes deemed necessary by these findings.

5. The BRPC will work with the REPCs, the Western Region Homeland Security Council, and MEMA to update and identify additional critical facilities, threats, vulnerabilities, and resources throughout the region.

6. Should federal or state hazard mitigation planning regulations and requirements change, the Commission will update this plan to reflect such changes, as appropriate and as funding permits.

Table 142 . Community Contacts

Community	Name	Position
Adams	Tom Satko	DPW Director
Becket	Craig Kleman	Town Administrator
Dalton	Dan Filiault	Emergency Management Director
Egremont	Edward McCormick	Emergency Management Director
Great Barrington	Will Brinker	Deputy Emergency Management Director
Hancock	Sherman Derby, Sr	Chair Board of Selectmen
Lee	Robert Nason	Town Administrator
Lenox	Daniel W. Clifford	Fire Chief
Monterey	Melissa Noe	Executive Secretary
New Marlborough	Barbara Marchione	Emergency Management Director
Otis	Chris Bouchard	Highway Superintendent
Pittsfield	Bruce Collingwood Robert Czerwinski	Director of Public Works Fire Chief
Richmond	Matthew Kerwood	Town Administrator
Sandisfield	John Burrows	Emergency Management Director
Sheffield	Rhonda Bombard	Town Administrator
Stockbridge	Jorja Mardsen	Town Administrator
Tyringham	Molly Curtin-Shaefer	Executive Secretary
Washington	Paul Mikaniewicz	Fire Chief
Williamstown	Andrew Groff	Town Planner

Incorporation into Existing Planning Mechanisms

The BRPC will work with its communities to insure that this plans goals are incorporated into other planning processes, such as CEM plans, Homeland Security Plans, Master Plans, Transportation Plans and Open Space and Recreation Plans, however the responsibility ultimately falls with the municipality to include the goals from this plan into other plans. The BRPC recommends to its communities that whenever a new planning initiative begins in the community, the Hazard Mitigation Plan be consulted so that the findings can be incorporated. At the regional scale, BRPC has incorporated relevant information into the Regional Transportation Plan (RTP) as well as the Comprehensive Economic Development Strategy (CEDS). Starting in 2011, the BRPC will be undertaking a regional sustainability plan and hazard mitigation will be incorporated into relevant sections of the report.

Continued Public Involvement

The Draft of the *Berkshire County Hazard Mitigation Plan* was made available for public comment period from January 3rd, 2011 through March 31, 2011. Notice of this comment period was advertised in the local papers. The draft was also distributed to the Berkshire Regional Hazard Mitigation Advisory Committee and all those who were involved in the development of the plan, as well as the Berkshire Regional Planning Commission's Delegates and Alternates. Notice of the review was also sent to all parties who were named within the draft as well as other potentially interested organizations listed in

Appendix 2. The Draft was presented and comments received during a public meeting on January 20, 2011. The meeting materials for these meetings can be found in Appendix 1. Comments received were incorporated into the final plan. On November 15, 2012, the Berkshire Regional Planning Commission voted to adopt the *Berkshire County Hazards Mitigation Plan*. The final plan will be on BRPC's website and comments will always be accepted. BRPC will convene a meeting of the Hazard Mitigation Advisory Committee annually to discuss disasters and problems that have occurred during the prior year and to discuss actions that have been completed over the prior year. Findings from these annual meetings will be incorporated into the 2017 plan update. No annual meetings were held between the 2005 and the beginning of the 2012 plan update, so this change will allow hazard mitigation to remain an integral part of planning in the region. These annual meetings will assess the effectiveness of the plan by discussing what mitigation actions have occurred and if there has been any issues with the plan not addressing specific problem areas. At the beginning of the next update, a formal evaluation will be conducted by the committee to determine what worked and what didn't work.

Adoption by Communities

The participating communities formally adopted the plan during the summer and fall of 2012. The formal adoption of the plan by each community follows.

Table 143 . Community Adoptions

Community	Date Adopted
Adams	August 8, 2012
Becket	September 5, 2012
Dalton	September 24, 2012
Egremont	August 27, 2012
Great Barrington	October 9, 2012
Hancock	December 19, 2012
Lee	September 4, 2012
Lenox	August 8, 2012
Monterey	July 23, 2012
New Marlborough	August 6, 2012
Otis	August 14, 2012
Pittsfield	November 27, 2012
Richmond	August 1, 2012
Sandisfield	July 16, 2012
Sheffield	October 1, 2012
Stockbridge	November 26, 2012
Tyringham	July 10, 2012
Washington	July 16, 2012
Williamstown	July 23, 2012

Certificate of Adoption – Adams

Town of Adams · Massachusetts 01220-2087

OFFICE OF THE SELECTMEN

Meetings: Wednesday evenings 7:00 o'clock
TOWN HALL BUILDING
8 PARK STREET
TEL. (413) 743-8300
FAX (413) 743-8316

CERTIFICATE OF ADOPTION

Adams, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Adams participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Adams, and

WHEREAS, a duly-noticed public meeting was held by the BOARD OF SELECTMEN on August 8, 2012, and

WHEREAS, the Town of Adams authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the TOWN OF ADAMS, BOARD OF SELECTMEN adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this August 8, 2012

Arthur Harrington, Chairman

Michael Ouellette, Member

Scott Nichols, Member

John Duval

"Home of Mt. Greylock"

Certificate of Adoption – Becket

TOWN OF BECKET
SELECTBOARD
557 Main Street, Becket, MA 01223
TOWN HALL – (413) 623-8934
FAX – (413) 623-6036

CERTIFICATE OF ADOPTION

TOWN OF BECKET, MASSACHUSETTS

SELECTBOARD

A RESOLUTION ADOPTING THE
BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Becket participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Becket, and

WHEREAS, a duly-noticed public meeting was held by the Becket Selectboard on September 5, 2012, and

WHEREAS, the Town of Becket authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Becket, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this September 5, 2012.

Mark L. Karlberg | Jeanne W. Pryor | William H. Elovirta

ATTEST

Certificate of Adoption – Dalton

TOWN OF DALTON

Town Hall
Berkshire County, Massachusetts 01226

CERTIFICATE OF ADOPTION

Town of Dalton, MASSACHUSETTS

SELECT BOARD

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Dalton participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Dalton, and

WHEREAS, a duly-noticed public meeting was held by the SELECT BOARD on September 24, 2012, and

WHEREAS, the Town of Dalton authorizes responsible departments and/or agencies to execute their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Dalton Select Board, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this 24th day of September, 2012.

Dalton Select Board

John F. Boyle, Chairman

Mary R. Cherry, Vice-Chairman

William E. Chabot, Member

Louisa Horth, Member

Stuart Sargent, Member

ATTEST

Certificate of Adoption – Egremont

TOWN OF EGREMONT
Select Board
P.O. Box 368
Egremont, MA 01258-0368
email: tegremont@yahoo.com
413-528-0182 171 Egremont Plain Road 413-528-5465

CERTIFICATE OF ADOPTION
TOWN OF EGREMONT, MASSACHUSETTS

A RESOLUTION ADOPTING THE
BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Egremont participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Egremont, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on August 27, 2012, and

WHEREAS, the Town of Egremont authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Egremont Board of Selectmenadopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this 27th day of August 2012.

Egremont Board of Selectmen

Bruce Turner, Chairman

Charles Flynn, Vice Chairman

Mary Brazie, Member

Certificate of Adoption – Great Barrington

SEAN A. STANTON
CHAIRMAN

DEBORAH PHILLIPS
ALANA CHERNILA
STEPHEN C. BANNON
ANDREW D. BLECHMAN

Town Hall, 334 Main Street
Great Barrington, MA 01230

Telephone: (413) 528-1619 x2
Fax: (413) 528-2290
website: www.townofgb.org

TOWN OF GREAT BARRINGTON
MASSACHUSETTS

BOARD OF SELECTMEN

CERTIFICATE OF ADOPTION

TOWN OF Great Barrington, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Great Barrington participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Great Barrington, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on March 14, 2011, and

WHEREAS, the Town of Great Barrington authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Great Barrington Board Of Selectmen adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this 9th day of October, 2012.

BOARD OF SELECTMEN

Sean Stanton, Chairman

Stephen Bannon

Deborah Phillips

Alana Chernila

Andrew Blechman

Certificate of Adoption – Hancock

TOWN OF HANCOCK

3650 HANCOCK ROAD HANCOCK, MASSACHUSETTS 01237 413-738-5225 FAX 413-738-5310

CERTIFICATE OF ADOPTION

HANCOCK, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Hancock participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Hancock, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on December 19, 2012, and

WHEREAS, the Town of Hancock authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Hancock Board of Selectmen, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this December 19, 2012

BOARD OF SELECTMEN

Sherman L. Derby, Sr., Chairman

Arthur F. Williams, Jr.

Martin Hanson

ATTEST

Certificate of Adoption – Lee

LEE POLICE DEPARTMENT

32 Main Street
Lee, Massachusetts 01238

Bus: (413) 243-5530
Fax: (413) 243-5532

Chief Joseph Buffis
Executive Officer William Tierney
Officer Philip Skowron
Officer Adrian Kohlenberger
Officer Todd Briggs
Officer Craig Desantis

Officer Jeffrey Roosa
Officer Stephanie Burdick
Officer Ryan Lucy
Officer Timothy Kelly
Officer Benjamin Towne
Admin. Assistant Tracy Dunn

CERTIFICATE OF ADOPTION

Town of Lee, Massachusetts
Board of Selectmen

A RESOLUTION ADOPTING THE BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Plan; and

WHEREAS, the Town of Lee participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Lee, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on 8/21/12.

WHEREAS, the Town of Lee authorizes responsible departments and/or agencies to execute their responsibilities demonstrated in the plan, and

NOW, THERFORE BE IT RESOLVED that the Town of Lee Board of Selectmen, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADPOTED AND SIGNED this Date August 21, 2012

Name Patricia D. Carlino Title Chairman Signature Patricia D. Carlino

LEE, MASSACHUSETTS INCORPORATED OCT. 21, 1777

Certificate of Adoption – Lenox

TOWN OF LENOX
MASSACHUSETTS

BOARD OF SELECTMEN
KENNETH FOWLER, CHAIRMAN
JOHN MCNINCH, CLERK
DAVE ROCHE
EDWARD P. LANE
CHANNING GIBSON

TOWN HALL - 6 WALKER STREET
LENOX, MA 01240
PHONE: (413) 637-5500
FAX: (413) 637-5518
WWW.TOWNOFLENOX.COM

CERTIFICATE OF ADOPTION
TOWN OF LENOX, MASSACHUSETTS
BOARD OF SELECTMEN
A RESOLUTION ADOPTING THE
BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Lenox participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Lenox; and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on Wednesday, August 8, 2012; and

WHEREAS, the Town of Lenox authorizes responsible departments and/or agencies to execute their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Lenox Board of Selectmen, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this Eighth Day of August, 2012.

LENOX BOARD OF SELECTMEN

Kenneth Fowler, Chairman

John McNinch, Clerk

Dave Roche

Edward P. Lane

Channing Gibson

ATTEST

Certificate of Adoption – Monterey

TOWN OF MONTEREY
435 Main Rd. P.O. Box 308
Monterey, MA 01245

CERTIFICATE OF ADOPTION
Monterey, **Massachusetts**
Board of Selectmen
A RESOLUTION ADOPTING THE BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Monterey participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Monterey, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on July 23, 2012, and

WHEREAS, the Town of Monterey authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Monterey Board of Selectmen, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this 23rd day of July 2012.

Scott Jenssen, Chair
Monterey Select Board

Muriel Lazzarini

Wayne Burkhart

ATTEST

Phone: 413.528.1443 x114 Fax: 413.528.9452
townmont@verizon.net
www.montereyma.gov

Certificate of Adoption – New Marlborough

COMMONWEALTH OF MASSACHUSETTS
TOWN OF NEW MARLBOROUGH
BOARD OF SELECTMEN
807 Mill River Southfield Road, Mill River, MA 01244

CERTIFICATE OF ADOPTION
RESOLUTION ADOPTING THE BERKSHIRE COUNTY HAZARD MITIGATION PLAN

Whereas, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

Whereas, the Town of New Marlborough participated in the development of the Berkshire County Hazard Mitigation Plan; and

Whereas, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of New Marlborough; and

Whereas, a duly-noticed public meeting was held by the Board of Selectmen on August 6, 2012, and

Whereas, the Town of New Marlborough authorizes responsible department and/or agencies to executes their responsibilities demonstrated in the plan, and

Now therefore be it resolved that the Town of New Marlborough Board of Selectmen adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. Chapter 40.

Adopted and Signed this August 6, 2012

Lawrence H. Davis, III, Chair	Nathaniel H. Yohalem	Tara B. White
	Board of Selectmen	

Certificate of Adoption – Otis

TOWN OF OTIS

BOARD OF SELECTMEN • BOARD OF HEALTH
Town Hall, One North Main Road, P.O. Box 237
Otis, Massachusetts 01253-0237
(413) 269-0100 • Facsimile (413) 269-0104

TOWN OF OTIS INCORPORATED JUNE 13 1810 MASSACHUSETTS

CERTIFICATE OF ADOPTION

TOWN OF OTIS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Otis participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Otis, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on August 14, 2012, and

WHEREAS, the Town of Otis authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Otis Board of Selectmen, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this 14th of August, 2012

ATTEST:

Roberta Sarnacki

Roberta Sarnacki
Chair, Otis Board of Selectmen

Donald Hawley

Donald Hawley

Brian Crandall

Brian Crandall

Certificate of Adoption – Pittsfield

CITY OF PITTSFIELD

OFFICE OF THE CITY SOLICITOR, CITY HALL, 70 ALLEN STREET, SUITE 200, PITTSFIELD, MASSACHUSETTS 01201
TEL (413) 499-9352
FAX (413) 499-9354

CERTIFICATE OF ADOPTION

CITY OF PITTSFIELD, MASSACHUSETTS

CITY COUNCIL

A RESOLUTION ADOPTING THE BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the City of Pittsfield participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the City of Pittsfield;

WHEREAS, a duly-noticed public meeting was held by the Pittsfield City Council on November 27, 2012 to formally approve and adopt the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the City of Pittsfield authorizes responsible departments and/or agencies to execute their responsibilities demonstrated in the plan; and

NOW, THEREFORE BE IT RESOLVED that the City of Pittsfield City Council adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this November 27, 2012.

Kevin Sherman, Council President

Barry Chairmont, Councilor At Large

Jonathan Lothrop, Councilor Vice-President

Christine Yon, Councilor Ward 1

Melissa Mazzeo, Councilor At Large

Kevin Morandi, Councilor Ward 2

Churchill Cotton, Councilor At Large

Paul Capitanio, Councilor Ward 3

Christopher Connell, Councilor Ward 4

John Krol, Councilor Ward 6

Anthony Simonelli, Councilor Ward 7

CITY CLERK
CITY OF PITTSFIELD, MA
RECEIVED
2012 NOV 21 P 1:15

Linda M. Ayer

2

Certificate of Adoption – Richmond

TOWN OF RICHMOND
Town Hall
1529 State Road
Richmond, Massachusetts 01254

Main Office: (413) 698-3355
Fax: (413) 698-3272

CERTIFICATE OF ADOPTION

RICHMOND, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Richmond of participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Richmond, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on August 1, 2012, and

WHEREAS, the Town of Richmond authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Board of Selectmen, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this August 1, 2012

Marguerite Rawson

Marguerite Rawson, Chairman

Alan Hanson, Selectman

Roger Manzolini, Selectman

ATTEST: August 1, 2012

Katherine Zahn, Town Clerk

Certificate of Adoption – Sandisfield

TOWN OF SANDISFIELD

CERTIFICATE OF ADOPTION

SANDISFIELD, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Sandisfield participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Sandisfield, and

WHEREAS, a duly-noticed public meeting was held by the BOARD OF SELECTMEN on July 16, 2012, and

WHEREAS, the Town of Sandisfield authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Sandisfield, Board of Selectmen adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this July 16, 2012

Patrick Barrett

Richard Campetti

Jeffrey Gray
Board of Selectmen

Dolores Harasyko
Town Clerk
Attest

Certificate of Adoption – Sheffield

Town of Sheffield
Board of Selectmen
Town Hall – 21 Depot Square
P.O. Box 325
Sheffield, Massachusetts 01257

Voice: 413-229-7000
Fax: 413-229-7010
TTY: 800-439-2370

CERTIFICATE OF ADOPTION
Sheffield, Massachusetts
Board of Selectmen
A RESOLUTION ADOPTING THE
BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Sheffield has participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Sheffield; and

WHEREAS, a duly noticed public meeting was held by the Board of Selectmen on October 1, 2012; and

WHEREAS, the Town of Sheffield authorized responsible departments and/or agencies to execute their responsibilities demonstrated in the plan; and

NOW, THEREFORE BE IT RESOLVED that the Board of Selectmen adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this first day of October 2012

David A. Smith, Jr., Chairman

Julie M. Hannum

Rene C. Wood

ATTEST:

Felecie O. Joyce
Town Clerk

This institution is an equal opportunity employer and provider.

Certificate of Adoption – Stockbridge

Town of Stockbridge

50 MAIN STREET, P.O. BOX 417
STOCKBRIDGE, MASSACHUSETTS 01262-0417
TELEPHONE 413-298-4170
FAX 413-298-4344

CERTIFICATE OF ADOPTION

Stockbridge, **MASSACHUSETTS**

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Stockbridge participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Stockbridge, and

WHEREAS, a duly-noticed public meeting was held by the BOARD OF SELECTMEN on Monday, November 26, 2012, and

WHEREAS, the Town of Stockbridge authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Stockbridge BOARD OF SELECTMEN, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this 26th day of November, 2012.

Stockbridge Board of Selectmen

Deborah S. McMenamy, Chair

Stephen A. Shatz

Charles R. Gillett

ATTEST

Certificate of Adoption – Tyringham

Town of Tyringham

Selectmen's Office • 116 Main Road • P.O.Box 442
Tyringham, MA 01264 Ph.(413)243-1749 Fax.(413) 243-4942

CERTIFICATE OF ADOPTION

Town of Tyringham, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Tyringham participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Tyringham, and

WHEREAS, a duly-noticed public meeting was held by the BOARD OF SELECTMEN on Tuesday, July 10, 2012 and

WHEREAS, the Town of Tyringham authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that theTown of Tyringham Board of Selectmen, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this July 10, 2012.

Alan Wilcox, Chairman Peter Curtin, Clerk Christopher Johnson, Member

ATTEST

Certificate of Adoption – Washington

Town of Washington

8 SUMMIT HILL ROAD P (413) 623-8878
WASHINGTON, MASSACHUSETTS 01223 F (413) 623-2116

Town Offices/Selectman

CERTIFICATE OF ADOPTION

Town of Washington, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE

BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Washington participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Washington, and

WHEREAS, a duly-noticed public meeting was held by the BOARD OF SELECTMEN on July 16, 2012 and

WHEREAS, the Town of Washington authorizes responsible departments and/or agencies to executes their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Washington BOARD OF SELECTMEN, adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this July 16, 2012

Town of Washington, Board of Selectmen

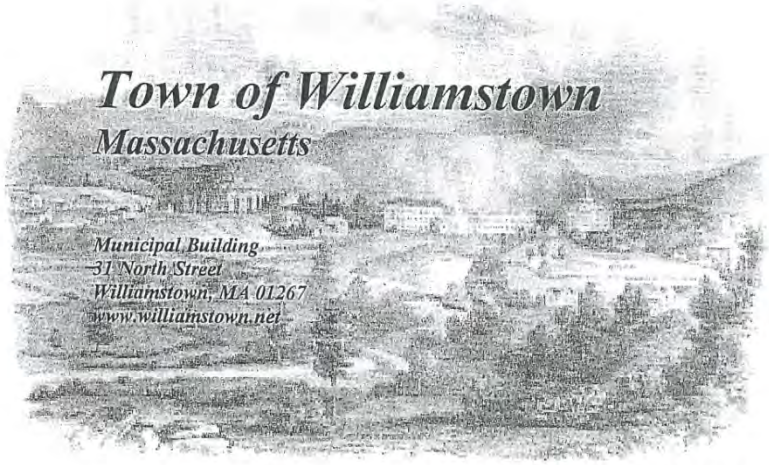
James A Huebner, Chairman

Shaun Lennon, Clerk

Michael Case, Selectmen

ATTEST

Certificate of Adoption – Williamstown



OFFICE OF
PETER L. FOHLIN
TOWN MANAGER
413-458-3500
FAX 413-458-4839
pfohlin@wfilliamstown.net

CERTIFICATE OF ADOPTION

WILLIAMSTOWN, MASSACHUSETTS

BOARD OF SELECTMEN

A RESOLUTION ADOPTING THE BERKSHIRE COUNTY HAZARD MITIGATION PLAN

WHEREAS, the Berkshire Regional Planning Commission established a Committee to prepare the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Town of Williamstown participated in the development of the Berkshire County Hazard Mitigation Plan; and

WHEREAS, the Berkshire County Hazard Mitigation Plan contains several potential future projects to mitigate potential impacts from natural hazards in the Town of Williamstown, and

WHEREAS, a duly-noticed public meeting was held by the Board of Selectmen on July 23, and

WHEREAS, the Town of Williamstown authorizes responsible departments and/or agencies to execute their responsibilities demonstrated in the plan, and

NOW, THEREFORE BE IT RESOLVED that the Town of Williamstown Board of Selectmen adopts the Berkshire County Hazard Mitigation Plan, in accordance with M.G.L. c. 40.

ADOPTED AND SIGNED this 23rd day of July, 2012

David A. Rempell, Chairman

Kathleen Poirot
ATTEST:
Kathleen Poirot
Assistant Town Clerk

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Appendix

Appendix 1. Community Plans Reviewed
Appendix 2. Meeting Notes
Appendix 3. Organizations input sought from
Appendix 4. Public Review Notice
Appendix 5. Community maps

Appendix 1. Plans Reviewed

Town	Master Plan	Open Space and Recreation Plan	Community Development Plan
Adams	Comments Incorporated	Comments Incorporated	Comments Incorporated
Becket	None	Not Discussed	Not Discussed
Dalton	Comments Incorporated	None	Not Discussed
Egremont	Comments Incorporated	Comments Incorporated	Not Discussed
Great Barrington	Currently being updated	Comments Incorporated	None
Hancock	None	None	Comments Incorporated
Lee	Comments Incorporated	Comments Incorporated	Comments Incorporated
Lenox	Comments Incorporated	Comments Incorporated	Comments Incorporated
Monterey	None	Comments Incorporated	Comments Incorporated
New Marlborough	Comments Incorporated	Not Discussed	None
Otis	None	Not Discussed	Comments Incorporated
Pittsfield	Comments Incorporated	Comments Incorporated	Comments Incorporated
Richmond	Not Discussed	None	None
Sandisfield	None	None	None
Sheffield	Comments Incorporated	None	None
Stockbridge	Not Discussed	Comments Incorporated	Comments Incorporated
Tyringham	None	Comments Incorporated	Comments Incorporated
Washington	None	None	None
Williamstown	Comments Incorporated	None	None

Appendix 2. Meeting Notes

Regional Meeting #1 Summary

Date and Time: February 2, 2010 10:30 am

Location: BRPC

Discussion Topics:

1. What is Hazard Mitigation
2. What is a Hazard Mitigation Plan
3. What currently exists and update process
4. Hazard Assessment
5. Potential Mitigation Activities

Meeting Participants:

Community Representatives

- *Scott Muir – Stockbridge EMD*
- *Mimi Crandall – Tyringham*
- *John Burrows – Sandisfield EMD*
- *Kathy Burrows – Sandisfield*
- *Ray Tarjick – Becket EMD*
- *Maynard Forbes – Monterey DPW*
- *Ted White – Dalton EMD*
- *Tom Satko – Adams DPW*
- *Joseph Kellog – Sheffield Town Administrator*
- *Chris Bouchard – Otis Highway*
- *Bruce Collingwood – Pittsfield DPW*
- *Mark Piacenti – Pittsfield Engineer*
- *Ryan Grennan – Pittsfield GIS*
- *Jim Croce – Pittsfield Engineer*
- *Paul Mikaniewicz – Washington EMD / Fire Chief*
- *Andrew Groff – Williamstown Planner*
- *Barbara Marchione – New Marlborough EMD*

MEMA Staff

- *Bruce Augusti*

BRPC Staff

- *Mark Maloy*
- *Mackenzie Greer*
- *Brian Domina*

Specific comments from meeting:

Flooding in Sandisfield is a major problem
Could a mitigation activity be a change from gravel to paved
MassDOT is included in the state plan

Ice storm was a major problem
    Tree trimming
Housatonic River is eating away the road in Sheffield and flooding exacerbates the problem
Old dams are just sitting there and need to be taken out if not in use
Participants want more information on the grant programs
What scale can these grant programs address
Grants will not pay for maintenance and needs to be a permanent fix
Towns are very concerned about gravel roads and need to do a better job keeping track of costs
Concern about damage to trees from ice storm
    Further storm damage
    Potential for fire damage

Berkshire Multi-Jurisdictional Natural Hazard Mitigation Plan

February 2, 2010

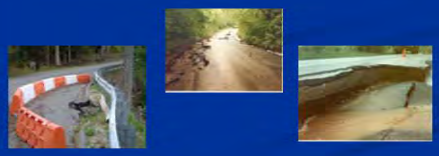
Agenda

- What is Hazard Mitigation
- What is a Hazard Mitigation Plan
- What currently exists and how are we updating it
- Timeline

- Hazard Assessment
- Potential Mitigation Activities
- Next Steps

What is Hazard Mitigation?

"A sustained action taken to reduce or eliminate the long-term risk to people and property from hazards and their effects."



What is a Hazard Mitigation Plan?

- A Mitigation Plan…
  - Describes the hazards is a community
  - Assesses the vulnerability of a community to the identified hazards
  - Describes activities that can be done to mitigate the hazards before they occur

Federal Disaster Mitigation Act of 2000 Mitigation Planning a REQUIREMENT to maintain eligibility for HMGP & PDM funds.

Benefits of Having a Hazard Mitigation Plan

- Mitigation Activities in Berkshire County

Becket – Brooker Hill Road Bank Stabilization

Tyringham – Bank Stabilization

What Currently Exists

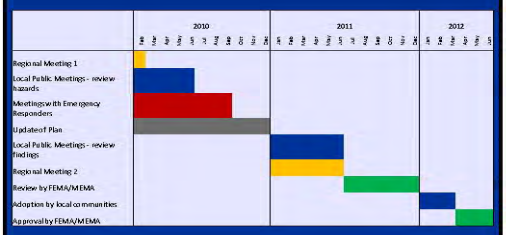
- Berkshire Regional Hazard Mitigation Plan (2005)
- Community Annexes for 7 communities
  - Becket, Hinsdale, Lanesborough, Lenox, Stockbridge, Tyringham and Williamstown
  - Each Annex is a complete plan, yet is based on the regional plan.
  - Annexes expire when the Regional Plan expires (5 years - 2010)

1

Updated Plan

- Berkshire Multi-Jurisdictional Hazard Mitigation Plan
  - A Regional Plan with local information imbedded within the plan – One plan covers all of the 19 participating municipalities.
    - This will reduce the duplication that currently exists between the plans and make updating the new plan much easier and cheaper.

Hazard Mitigation Plan Timeline



Questions on the Hazard Mitigation Plan?

Natural Hazard Identification

- Flood Related
  - Heavy rain, snow melt, dam failure, ice jams
- Atmospheric Related and Winter Related
  - High winds, hurricanes, tornados, nor-easters, severe thunderstorms, heavy snows, ice storms, blizzards
- Other Natural
  - Major urban fires, wildland fire, drought, extreme temperature
- Geologic
  - Earthquakes, landslides, tsunami

Natural Hazard Identification

- Recently Declared Disasters
  - Severe Storms and Flooding – December 2008
  - Severe Winter Storm – December 2008
  - Severe Storms & Inland/Coastal Flooding – April 2007
  - Severe Storms and Flooding – May 2006
  - Severe Storms and Flooding – October 2005
  - Hurricane Katrina – August 2005
  - Snow – January 2005

Berkshire Natural Hazards

(2005)

Nstural Hazard:	Area of Impact	Frequency of Occurrence	Magnitude / Severity	Hazard Ranking
Dam Failure	2	2	4	8
Flooding	2	3	3	8
Snow Event	3	3	2	8
Tornado	2	2	4	8
Severe Storms (thunderstorm, wind, hail, lightning)	3	3	2	8
Hurricane & Tropical Storms	3	2	2	7
Ice Jam	2	2	2	6
Wildfire	2	3	2	6
Beaver Activity	1	2	2	5
Drought	3	1	1	5
Earthquake	2	1	2	5

2

Assessing Vulnerability
(2005)

- 6.2% of houses (~3,500) are in floodplain
- 546 Commercial and Industrial buildings are located in floodplain
  - 15.7% of Commercial and 23.8% of Industrial
- Roads in the floodplain
  - 4.87% (136.59 miles) are in the floodplain

Buildings within the Floodplain
(2005)

Municipality	No. buildings in Floodplain	Overall Percent building stock	Loss Estimate	Comments
Pittsfield	1,128	7.5%	$323 million	16% Comm bldg stock 33% Indust bldg stock
Williamstown	417	17.7%	$214 million	34% Comm bldg stock 20% Indust bldg stock
Lee	230	10%	$163 million	36% Comm bldg stock 28% Indust bldg stock
Monterey	93	12.6	$51 million	100% Comm bldg stock
Clarksburg	65	9.8%	$13 million	36% Comm bldg stock 100% Indust bldg stock
Stockbridge	60	4.6%	$37 million	29% Comm bldg stock 100% Indust bldg stock

Assessing Vulnerability, cont.
(2005)

- Many hazardous events occur July & August
  - 11 of 14 tornados
  - 2 of 3 Hurricanes passing directly through county
  - 15 of 51 Hurricanes/Tropical storms within 100 mi of county
  - 40 of 98 severe storms (wind, hail, lightning)

Assessing Vulnerability, cont.
(2005)

Dams: 224 in Berkshire County

- 36 dams are High Hazard
  - 6 HH dams in Washington
  - 5 HH dams in Hinsdale, Sandisfield
  - 3 HH dams in Becket, North Adams
- 29 dams are in Unsafe or Poor Condition
  - Often owned by Mass. or municipalities
- Lake Ashmere, North Reservoir and Windsor Lake are High Hazard and in Poor Condition

Where can we reasonably focus our Mitigation Efforts?

- Flooding is our prime target
  - Several hazards results in flooding (dam failure, snow, hurricanes, thunderstorms, ice jams)
  - Predictable: we know where the problems can occur
  - Relative ease of implementing mitigation measures
  - Focus of grant programs makes them affordable

Mitigation

- Prevention
- Property Protection
- Natural Resource Protection
- Emergency Services
- Public Information
- Structural Projects

Examples of Mitigation Activities

- Prevention - Land Use Planning
  - Floodplain & wetlands bylaws to limit or prohibit new development
  - Stormwater bylaws to limit or prohibit new discharges into drainage systems
  - Open space planning
  - Public outreach program

Examples of Mitigation Activities

- Structural Projects
  - Flood-proof or relocate buildings in floodplain
  - Maintain and/or improve drainage systems
    - Stormwater drainage systems
    - Culverts
  - Maintain and/or improve existing Flood Control Structures
    - Dams
    - Berms or other barriers

Potential Mitigation Activities

Does the focus on flooding make sense?

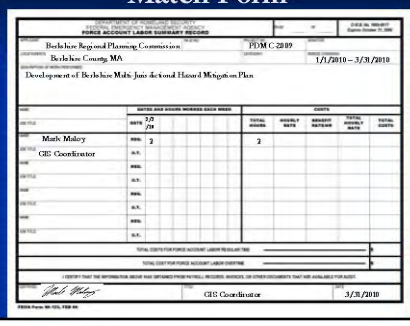
What other hazards should we be addressing in the mitigation activities?

Any ideas on mitigation activities that should be included?

Next Steps

- Brian or Mackenzie will be contacting you to set up the initial public meeting
- Meeting with REPCs
- Match forms

Match Form



FORCE ACCOUNT LABOR SUMMARY RECORD

Berkshire Regional Planning Commission — PDM C-2009

Berkshire County, MA — 1/1/2010 – 3/31/2010

Development of Berkshire Multi-Jurisdictional Hazard Mitigation Plan

NAME / JOB TITLE	DATES AND HOURS WORKED EACH WEEK						COSTS				
	DATE	1/3/10					TOTAL HOURS	HOURLY RATE	BENEFIT RATE/MR	TOTAL HOURLY RATE	TOTAL COSTS
Mark Maloy	REG.	2					2				
GIS Coordinator	O.T.										
	REG.										
	O.T.										
	REG.										
	O.T.										
	REG.										
	O.T.										

TOTAL COSTS FOR FORCE ACCOUNT LABOR REGULAR TIME

TOTAL COST FOR FORCE ACCOUNT LABOR OVERTIME

I CERTIFY THAT THE INFORMATION ABOVE WAS OBTAINED FROM PAYROLL RECORDS, INVOICES, OR OTHER DOCUMENTS THAT ARE AVAILABLE FOR AUDIT

SIGNATURE: Mark Maloy — TITLE: GIS Coordinator — DATE: 3/31/2010

Contacts

- Mark Maloy – Project Manager
  GIS Coordinator
  mmaloy@berkshireplanning.org
  413-442-1521x29
- Brian Domina
  Planner
  bdomina@berkshireplanning.org
  413-442-1521x14
- Mackenzie Greer
  Planner
  mgreer@berkshireplanning.org
  413-442-1521x32

Regional Meeting #2 Summary

Date and Time: January 20, 2011 10:30am

Location: BRPC

Discussion Topics:

6. Synopsis of work that has been done so far
7. Review of regional hazards
8. Review of common problems throughout the region as identified by communities
9. Review of Regional Goals and Sub-Goals
10. Review of Action Items
11. Next Steps

Meeting Participants:

Community Representatives

- *Ted White – Dalton EMD*
- *Bruce Collingwood – Pittsfield DPW*
- *Andrew Groff – Williamstown Planner*
- *Tom Satko – Adams DPW*

MEMA Staff

- *Sarah White*

Public

- *Rich Niles – AMEC*
- *Steve DiRenzo –National Weather Service*
- *Britt Westergard – National Weather Service*

BRPC Staff

- *Mark Maloy*
- *Mackenzie Greer*

Specific comments from meeting:

Comments Relating to Actions

- The state is not enforcing the dam regulations –among private owners
- The state works well with municipalities regarding municipal dams.
- The Boards of Health should be included in the action relating to beavers
- Slope stabilization should be mentioned as an action under goal 2
- The state building code should be mentioned as an item under goal 3
- Condition of private dams need to be highlighted in goal 4
- Large events, such as Tanglewood, could notify the National Weather Service so that they can do a careful review and warn the event in case of inclement weather – action under goal 5
- The emphasis on cultural facilities should not receive as much emphasis as all sectors of the economy need to be emphasized

- The development of floodplain maps should be listed under goal 6 and include the coordination with state and federal officials
- Overall, the group was supportive of the actions and priorities as discussed

Other Comments:

- The Fujita Scale has been replaced by the enhanced Fujita Scale and should be updated in the report
- Actions related to all the high hazards need to be created for each community. These actions could include subdivision regulations, low-impact development, burying utility lines, etc
- Revisions to the floodplain maps cause other effects, such as determining that flood controls are not adequate in size. These implications need to be understood and prepared for.

Berkshire County Hazard Mitigation Plan

Regional Meeting
January 20, 2011

Agenda

- Status of the plan
- Regional hazards and common problems
- Regional goals
- Regional actions
- Next steps

What have we been doing over the last year

- Initial public meeting in each of the 19 communities to discuss hazards
- Meeting with emergency responders, planners, town managers in each community to discuss specific problem areas in more detail
- Updated 2005 Regional Plan based on information received from communities
- Release of Draft Berkshire County Hazard Mitigation Plan on Jan 3, 2010

Regional Hazards

- Hazard Risks
  - High: Flooding, Winter Storm, Severe Storm
    - Includes ice storm, blizzard, thunderstorm, high wind, hail
  - Medium: Dam Failure, Tornado, Hurricane & Tropical Storms
  - Medium – Low: Extreme Temperature, Drought, Wildfire
  - Low: Landslide, Earthquake, Ice Jam

What are the common problems

- Undersized culverts / bridges
- Lack on maintenance on storm water system
- Dirt road maintenance / stormwater management
- Beavers
- Debris in streams
- Maintenance of utility lines around trees
- Debris from ice storm

Regional Goal

Reduce the loss of life, property, infrastructure, and environmental and cultural resources from natural disasters.

Supporting Goals

- *Investigate, design and implement structural projects that will reduce and minimize the risk of flooding.*
- *Investigate and implement projects that will reduce and minimize the risk of non-flooding hazards.*
- *Improve existing local policies, plans, regulations, and practices to reduce or eliminate the impacts of natural hazards*
- *Increase the capacity of local Emergency Managers, DPWs, and Fire, Police, Conservation Commissions and Health Departments to plan for and mitigate natural hazards*
- *Increase public awareness of natural hazard risks and mitigation activities available to them*
- *Improve the quality of the data for the region as it pertains to natural hazards*

Mitigation Measures

- Prevention
- Property Protection
- Public Education and Awareness
- Natural Resource Protection
- Emergency Services Protection
- Structural Projects

Goal 1

Investigate, design and implement structural projects that will reduce and minimize the risk of flooding

•Improve stormwater management systems that are located in hazard prone areas or are inadequate

•Insure the integrity of large beaver dams or breach them in a controlled manner

•Continue to work with Mass. Fish & Game to investigate permanent measures to minimize beaver impacts

•Make beaver deterrent devices more readily available and affordable to municipalities

•Work with DEP / Conservation Commissions to control beaver populations in problem areas

Goal 1 – cont.

Investigate, design and implement structural projects that will reduce and minimize the risk of flooding

•Floodproof or relocate critical facilities located within floodplains, focusing on EOCs

•Encourage the flood-proofing or relocation of existing structures in floodplain zones

•Help businesses and cultural institutions to secure funding to retrofit their properties against flood damage

•Provide a list of state-approved engineering firms to dams owners and EMDs

•Work with DEP / Conservation Commissions to remove debris from waterways

Goal 2

Investigate and implement projects that will reduce and minimize the risk of non-flooding projects

•Remove woody debris from the December 2008 ice storm to prevent fires and protect the natural resources

•Work with utility companies to trim trees around power lines

Goal 3

Improve existing local policies, plans, regulations, and practices to reduce or eliminate the impacts of natural hazards

•Incorporate new floodplain maps as they are developed

•Develop floodplain bylaws for those communities that do not have them

•Improve enforcement of existing floodplain bylaws

•Limit the expansion of infrastructure in hazard-prone areas

•Develop stormwater bylaws

•Encourage the use of low-impact development techniques

Goal 3 – cont.

Improve existing local policies, plans, regulations, and practices to reduce or eliminate the impacts of natural hazards

- Encourage local municipalities at a minimum to maintain or join the National Flood Insurance Program
- Encourage local municipalities to consider joining the Community Rating System
- Periodically update the Berkshire County Hazard Mitigation Plan
- Incorporate the Hazard Mitigation Plan into other planning efforts (Master Plans, Open Space Plans, etc)

Goal 4

Increase the capacity of local Emergency Managers, DPWs, and Fire, Police, Conservation Commissions and Health Departments to plan for and mitigate natural hazards

- Ensure that each dam has an updated Emergency Action Plan and Inundation Map
- Educate local Emergency Management Directors about dams in their municipalities
- Post important contact information at all dams in the county
- Floodproof or relocate critical facilities located within floodplains, focusing on EOCs
- Educate local building inspectors / planning boards about hazards risks

Goal 4 – cont.

Increase the capacity of local Emergency Managers, DPWs, and Fire, Police, Conservation Commissions and Health Departments to plan for and mitigate natural hazards

- Help local officials identify opportunities to mitigate natural hazard threats
- Conduct local disaster response drills and feature them in local news media
- Develop and publicize local and regional evacuation routes and shelter locations
- Develop formal Mutual Aid Agreements for emergency response teams, DPWs
- Add additional airwave capacity for emergencies
- Fill communications gaps by adding new towers where necessary, using existing towers and structure where possible

Goal 4 – cont.

Increase the capacity of local Emergency Managers, DPWs, and Fire, Police, Conservation Commissions and Health Departments to plan for and mitigate natural hazards

- Increase local and regional emergency response training
- Inventory shelter capacity within the region and determine each shelter's structural ability to withstand natural disaster events.
- Seek the creation of additional shelters where the needs are greatest
- Expand and formalize local agreements for use of shared mass care shelters in the event of a disaster
- Determine ability of town governmental centers to withstand a variety of natural hazard events

Goal 4 – cont.

Increase the capacity of local Emergency Managers, DPWs, and Fire, Police, Conservation Commissions and Health Departments to plan for and mitigate natural hazards

- Educate local officials to help them develop plans to protect critical documents and materials

Goal 5

Increase public awareness of natural hazard risks and mitigation activities available to them

- Provide leaflets to landowners in hazard-prone areas that discuss hazard mitigation
- Educate dam owners about their responsibilities and liabilities
- Increase the working relationship between upstream and downstream dam owners
- Investigate opportunities to create cooperative alliances/working relationships between dam owners and upstream shoreline property owners.
- Showcase successful hazard mitigation projects

Goal 5

Increase public awareness of natural hazard risks and mitigation activities available to them

- Identify cultural resources within hazard-prone areas
- Provide workshops to help local businesses and cultural institutions to develop disaster mitigation plans for their facilities
- Teach residents in rural areas how to equip their homes for "on-site" sheltering

Goal 6

Improve the quality of the data for the region as it pertains to natural hazards

- Periodically update the Berkshire County Hazard Mitigation Plan
- Improve record-keeping of local natural disasters and their impacts

Next Steps

- Meetings in each community to review town specific information (now – March 31, 2011)
- Plan updated based on comments (April 1 – June 30, 2011)
- Plan submitted to MEMA & FEMA for formal review (July 1 – December 1, 2011)
- Plan updated based on comments from MEMA/FEMA (January 2012)
- Plan adopted by each community (February – June 2012)

What do you need to do?

- Review plan and send comments to BRPC
- Schedule public meeting
  - Work with Brian and Mackenzie
- Match Forms

Adams Community Meeting #1 Summary

Date and Time: May 5, 2010, 7:00PM

Location: Adams Town Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Adams

Meeting Participants:

Community Representatives

- Michael Oulette, Chairman Selectman
- Arthur Harrington, Selectman
- Jason Hnatonko, Selectman
- Paula Melville, Selectman
- Scott Nichols, Selectman
- Jonathan Butler, Town Administrator
- Ed St. John III, Town Counsel
- Tom Satko, DPW Director
- Haley Meczywor, Admin. Assistant
- Dave Cleplela (?), Resident
- David Charon, Resident
- George Haddad, Resident
- Jeffrey Lefebvre, Resident
- The meeting was also broadcast live on local access television.

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

- Members of the Selectboard were interested in how the location of the flood chutes affects the floodplain. Specifically, they wanted to be sure the floodplain maps were changed after the chutes were constructed.
- There was a question about whether a mountain landslide would be included in this plan.
- Fisk Street Dam is a concern.
- An earth dam on the Moren (?) property, believed to be owned by DCR, is a concern.
- Some non-natural hazards were brought up and BRPC staff explained that they would not be a part of this plan.

Adams Community Meeting #2 Summary

Date and Time: July 20, 2010, 10:00AM

Location: Adams Town Offices

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Donna Cesan, Director, Community Development
- David Pelletier, Building Inspector
- Steve Brown, Fire Chief
- Richard G. Kleiner, Emergency Management Director
- Jonathan Butler, Town Administrator

BRPC Staff

- Mackenzie Greer

General notes:

- Their capital improvement plan spans 2-3 years now given their fiscal condition. After this time period it will be reassessed.
- There is a strategic management plan for stormwater which suggests creating a standalone bylaw in the future.

Areas of concern:

- Dam concerns:
    - Fisk Street Dam is high hazard due to its deteriorating nature. The dam is privately owned and the Town is continuing outreach to the owner. There are other dams in Adams that the Town doesn't own.
    - Bassett Dam has the potential to inundate, but its ratings in 2005 suggest that it in adequate condition.
    - Moren Dam was an issue but has been repaired.
- Tree trimming: The Town does an "above average" job of tree trimming. The Town identifies problem areas within eight feet of wires and reports to National Grid who will remove the trees.
- Flood control:
    - Town maintenance of the flood control chutes as required by the Army Corps is considered unsustainable by the Town and reform of the process/requirements is needed. Estimates are $500,000 of cost every few years, incurred by Adams. The Town Administrator can provide details as necessary. Overall the structural condition of the chutes is good.

- Bridges:
    - Birch Street/Upton Brook is an area of concern (south of the bridge).
    - A bridge in the area of Hoosic Street and the Mullen Mayflower building is a concern because of its condition.
- Forest Fire
    - There is potential for large wildfires.
    - Small fires occasionally happen on either side of the valley. Some of this is exacerbated by trees which fell after the December 2008 ice storm which have now dried out.
    - Access to the wooded areas is a concern because it is limited, particularly if there was a fire.
- Other concerns:
    - Pump Station: There is a water blocking issues in the Station Street area. There is a flood tendency around this sewage pumping station. In part this is due to ditches having been filled.
    - Drinking water: There are three wells in Cheshire owned by Adams. There are concerns about water quality and the pumps being in jeopardy of water overflow (from the Hoosic River). They are located near the bike trail.
    - Landslide: There is the potential for a landslide in Adams that could damage a farm. This is likely a greater risk in Adams than other areas of the county.
    - Erosion: Burlingame Hill's road has experienced wash out. South Willow has eroded river walls.
    - Septic: Most of the town is on sewer. The higher elevations are on septic. No concerns were actually noted.
    - Public Works: Drainage is regularly maintained, as are detention/retention areas. Culverts are cleaned. There are no dams under Town control. See previous notes on flood control. The town sweeps streets to keep catch basins clear. A special truck was purchased to clean catch basins, but due to the given manpower, there is not enough time for much proactive work. The problem areas are regularly checked but other issues are usually dealt with reactively.
    - Shelters: The locations change regularly, but main ones are Plunkett Elementary and the High School.
    - Communications: Police have communication issues. The Pittsfield towers are overloaded and an upgrade is needed.

Adams Community Meeting #3 Summary

Date and Time: February 23, 2011

Location: Adams Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Williamstown information included in plan
    d. Next Steps

Meeting Participants:

- Michael G. Ouellette, Chairman, Board of Selectmen
- Arthur "Skip" Harrington, Selectman
- Paula Melville, Selectman
- Scott Nichols, Selectman
- Jonathan Butler, Town Administrator
- Melissa Schaffrick, Administrative Assistant
- Tom Satko (Community Contact), DPW Superintendant

BRPC Staff

- Mackenzie Greer

General notes:

- The Fisk Brook Dam was discussed. A number of questions were posed about the classification system in the plan.
- It will be helpful to add a column to the dam chart with location information or physical addresses.
- Add schedule regular maintenance of the chutes to the action plan; additional action plan changes made directly to the document.
- There is a “tornado alley” just north of Adams toward Walmart in North Adams.
- Why is the wastewater treatment plant not on the map as a critical facility?
- What census numbers are used in this plan?
- Add Mt. Greylock as a landslide-susceptible area.
- Hoosac Valley is missing in the list of shelters? Is this because it is actually located in Cheshire? Adams residents would use it in the event of an emergency.
- Small changes were made directly to the Plan Revision document.

Becket Community Meeting #1 Summary

Date and Time: September 22, 2010 7:00 PM

Location: Becket Town Hall

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. What natural hazards affect the Berkshires
4. Contents of natural hazard mitigation plan
5. Public input about natural hazards in Monterey and locations, if known

Meeting Participants:

Community Representatives

- George Fuller, Selectboard
- William Cavanaugh, Selectboard
- Mark Karlberg, Chairman Selectboard
- Richard Furlongh, Town Administrator
- Nina Weiler, Secretary
- Geraldine Galliher
- Bill Elovirta
- Madelaine Elovirta
- Mark White
- Rita Furlong
- Brian Domina
- Patricia Mullins
- Susan Deacon
- Steve LaBelle, Sr.
- Steve LaBelle, Jr.
- David Bonney
- Hildegarde Freedman
- Beth VanNess
- Steven Rosenthal
- Howard Lerner
- Colleen O'Connor
- Joshua Lombard
- Judy Cromwell
- Lee White
- Rosanna Koelle
- Richard Cromwell
- Thomas Koelle

- Ann Spadafora
- Jim Fennell
- Ruth Fennell
- Shirley Vachula
- Ronald Casella
- Ray Tarjick
- John Vachula
- Paul Mazut
- Eva Bonney
- Justin Elovirta
- Jim Atwell
- George Roberts
- Mark Hanford
- Robert Healey
- Ginger Conner
- Linda Shaw
- Ann Deely
- Deborah Hall
- Hope Robitaille
- Nicole Woodard
- John Hall
- Angie Woodard

BRPC Staff

- Brian Domina

Specific comments from meeting:

Selectboard suggested getting in touch with Leonard Tisdale – Highway Superintendent

Resident suggested that the bank of the stream adjacent to Main Street & Ballou Park is eroding and supporting granite blocks are sliding into the brook.

The owner of a house on High Street (at bottom of hill) stated that the due to the lack of proper drainage on the street, water runs off the hill and floods into his basement.

A resident stated that post–disaster responses could be improved

Becket Community Meeting #2 Summary

Date and Time: September 21, 2010 9:00 AM

Location: Becket Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Richard Furlong, Town Administrator
- William Elovirta, Police Chief
- Len Tisdale, Highway Superintendent

BRPC Staff

- Brian Domina

Specific comments from meeting:

Becket has an existing Natural Hazard Mitigation Plan from 2005 – this is a plan update

The group suggested no changes to the Natural Hazards Table from 2005

The group suggested revisions to the "known dams in Becket"

Ballou dam has been removed
Buckley-Dunton Lake has been rebuilt
Work has been performed on Rudd Pond North

The group suggested changes to the action table

Delete objective 1.1 as relates to Brooker Hill Road because it has been fixed

The group suggested changes to the critical facilities list. Edits have been made.

The majority of time spent at the meeting was centered upon the Town Map. The group identified areas of concern with respect to natural hazards, mostly related to flooding and inability of many of the road systems to deal with heavy rain.

- Several instances that show beaver problems are no longer true – the beavers have either moved on or been trapped.

- A change should be made to reflect the repairs to Booker Hill Road.

Existing Mitigation Measures

- No changes to existing section in existing plan

Mitigation Steps

- Small changes to action table in existing plan

Becket Community Meeting #3 Summary

Date and Time: March 2, 2011 @ 7:00 PM

Location: Becket Town Hall

Discussion Topics:

Summary of Plan Development
Review Plan
    Risk Assement
    Existing Protections
    Action Steps
Comments

Meeting Participants:

- George Fuller, Selectboard
- Mark Karlberg, Selectboard
- Richard Furlong, Town Administrator
- Nina Weiler, Secretary
- Rita Furlong
- Colleen O'Connor
- Gerry Galliher
- David Bonney
- David Devane
- Maddy Elovirta
- Bill Elovirta
- Ann Spadafora
- Catherine Hoak
- George Roberts

BRPC Staff

- Brian Domina

Comments

Please edit Community Profile

Last sentence …. replace is with are when referring to middle and high schools

Please edit Hazard Potential of Dams:

This section lists Becket as a moderate risk of dam failure, but the natural hazard risk assessment lists Becket at a high risk for dam failure. (one of these two need to be changed).

Please edit existing protection matrix

Under stormwater system replace entire town with partial town.

Dalton Community Meeting #1 Summary

Date and Time: May 10, 2010 7:00 PM

Location: Dalton Town Hall

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. What natural hazards affect the Berkshires
4. Contents of natural hazard mitigation plan
5. Public input about natural hazards in Dalton and locations, if known

Meeting Participants:

Community Representatives

- Thomas Szczepaniak, Selectman
- Louisa M. Horth, Selectwoman
- John F. Boyle, Selectman
- Bill Chabot, Selectman
- Ken Walto, Town Manager
- Sarah Frankland, Recording Secretary
- John Bartels, Jr., Chief of Police
- Jim Noel, EMT Member
- Ted White, Dalton EMD
- The meeting was also broadcast on local access television.

BRPC Staff

- *Brian Domina*

Specific comments from meeting:

Selectboard and public comment indicated the following concerns:

- Winter Storm Damage
- Dam Failure (Crane & Co. Dam – Windsor Dam - Plunkett Dam – Ashmere Dam – Hathaway Dam – Lower Sacket Reservoir Dam - Cleveland Reservoir Dam)
- Beaver Activity (Flooding)
- Forest Fires (a good amount of fallen dry timber exists in wooded areas of town)
- Severe Storm Damage
- Flooding
    - Most flooding occurs along the East branch of the Housatonic
    - Bottom of High Street Hill (flood and damage to old school)
    - Kirchner Road
    - Washington Mountain Road

Other Concerns

Dalton is “downstream” of several dams which are located in adjoining municipalities and have no control over those dams. Request that these dams be covered in the regional part of the plan.

Who would need to be the grant applicant for mitigation activities in this instance? Does it matter that the town in which the dam is located will not have a locally approved plan?

Dalton Community Meeting #2 Summary

Date and Time: June 9,2010 at 3:00 PM

Location: Dalton Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

Dalton Emergency Management Team

- Ted White, EMD
- Mary Lamke, ADA
- Ed Fahey , Health Agent
- Rich Kardasen, Dalton Fire Department
- Ken Walto, Town Manager
- John W. Bartels, Jr., Dalton Police Chief
- Michael S. Britton, Dalton Assessor
- James L. Noel, Crane & Co.

BRPC Staff

- Brian Domina

Specific comments from meeting:

The group suggested several changes to the Berkshire Potential Vulnerability to Future Natural Hazards.

- Severity for high winds should be changed to "serious"
- Severity for tornado should be changed to "serious"
- Severity for extreme temperature should be changed to "serious"

The group made a large number of corrections to the Critical Facilities spreadsheet. Changes have been made to the critical facilities spreadsheet.

The group gathered around the Town map and identified several areas of concern with respect to natural hazards.

- Brook running under High Street (underground) east under Glennon Avenue then under Route 9 emptying into Center Pond. The brook is forced underground through pipes (4'). The pipes are too small and water will flood the area.
- Small bridge on Kirchner Road in southern area of town floods regularly
- Small bridge on Orchard Road in central area of town floods regularly

- Beavers (town-wide) problems
- Cleveland Reservoir Dam – if the dam releases according to inundation maps a large part of downtown Dalton will be severely flooded. Dam is under control of the City of Pittsfield.
- A large amount of dry timber exists from the past ice storm, presenting a greater risk of forest fires.
- Other dams of concern (Cleveland is greatest concern) – Plunkett Reservoir, Windsor Reservoir, Upper and Lower Sackett Reservoir.

Existing Mitigation Measures

- Stormwater Management Bylaw
- Flood Plain Overlay District Regulations
- Sluice Gates Operated by Crane & Co. at Byron Mill and Government Mill

Mitigation Steps

- Remove beavers (trapping, beaver baffles/deceivers)
- Brook in the High Street area needs more capacity to handle storm water – install larger pipes
- Remove excess dry timber in the surrounding forest land
- Work to improve condition of Cleveland Reservoir Dam
- Install larger bridges on Kirchner and Orchard Roads

Dalton Community Meeting #3 Summary

Date and Time: March 28, 2011 @ 7:00 PM

Location: Dalton Town Hall

Discussion Topics:

Summary of Plan Development
Review Plan
    Risk Assement
    Existing Protections
    Action Steps
Comments

Meeting Participants:

- Thomas Szczepaniak, Selectman
- Louisa M. Horth, Selectwoman
- John F. Boyle, Selectman
- Bill Chabot, Selectman
- Mary R. Chery, Selectwoman
- Ken Walto, Town Manager
- Sarah Frankland, Recording Secretary
- Ted White, Dalton EMD
- The meeting was also broadcast on local access television.

BRPC Staff

- Brian Domina

Comments

Edits to Community Profile

Please change population to 6,911 (from town census)

Edits to Critical Facilities

Alternate Emergency Ops – change to 20 Flansburg Avenue

Dalton Water District is located at 59 Old Windsor Road

Add new Shelter – Dalton Senior Center 40 Field Street Extension

("Special Needs Facilities") – take out extra "m" in Pomeroy.

Edits to Flood Prone Area

(second paragraph) change to Orchard Road

Edits to Structurally Deficient Bridges….

Funding has been allocated to upgrade the bridge in FY ’12.

Edits to Dam Table

Byron Weston Dam # 1 - condition change to Satisfactory
Byron Weston Dam # 2 – condition change to Satisfactory

Edits to Existing Protections

Add “sluice gates” at Egypt Reservoir	Effective	None
Add “sluice gates” at Windsor Reservoir	Effective	None

Edits to Mitigation Action Plan

Regarding Orchard Road timeframe change “/” to “-“

(Add) Prevention Work with Dalton Fire District to ensure Windsor Dam is in good condition
Town of Dalton, Dalton Fire District
Ongoing/High
Dalton Fire District

Egremont Community Meeting #1 Summary

Date and Time: May 11, 2010, 9:30AM

Location: Egremont Town Hall
This was a meeting of the Emergency Management Planning Group. Selectboard meetings are not televised, and this meeting offered a larger cross-section of the community than Selectboard meetings generally do. The Selectboard was informed of the meeting, and one Selectman attended this meeting. This was an official town meeting, properly noticed.

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Egremont

Meeting Participants:
Community Representatives

- Ed McCormick, Emergency Management Director
- Bill Turner, Fire Chief
- Bruce Bernstein, Chairmain, Triad
- Sandra Martin, Public Health
- Reena Bucknell, Police Chief
- Bruce Cumsky, Chair, Selectboard

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:
Areas of concern:

- Ice storms
- Wind storms in the summer have been an issue due to Egremont's position between the Catskills and the Hudson Valley
- Flooding from the Green River in New York
- Prospect Lake Dam
- Flooding along Route 7
- Ability to remove debris from river which "takes an act of congress" but helps to mitigate flooding issues
- Planting of ash trees by the DPW – now affected by ash bore, now having to be removed and falling down in storms.

This group would like to make sure the conservation commission and DPW are brought into future discussions.

Egremont Community Meeting #2 Summary

Date and Time: November 23, 2010, 9:30am
Location: Egremont Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review Town Map to Identify Natural Hazard Problem Areas and Affected Critical Facilities
3. Discussion of Existing Mitigation Measures
4. Discussion of Possible Mitigation Steps

Meeting Participants:

- Reena Bucknell, Police Chief
- Sandra Martin, Board of Health
- Bruce McCarter, Psychologist
- Will Brinker, Deputy EMD
- Bill Turner, Fire Chief
- Ed McCormick, Emergency Management Director

BRPC Staff

- Mackenzie Greer

General notes:

- Dams: Prospect Lake Dam – the concern is dam maintenance. DCR has an order to repair it and a plan needs to be submitted. This dam would have a significant impact if breached.
- Tree-trimming – debris management is an issue. The ash bore is a concern given the amount of ash along roads. The relationship between the Town and utility companies is improving but their response can still be sporadic.
- Gravel roads – there are many in Egremont which turn into mudholes after storms. The Town is slowly working to pave them. This represents an incremental mitigation activity.
- Emergency routes – one challenge in the Town is that the optimal emergency exit routes are through New York State. Those exiting through Massachusetts are flood-prone, or have potential to flood.
- In general, critical facilities are not located in areas of concern.
- Shelters – the southern Berkshire regional emergency planning group (?) is working on developing a regional emergency shelter at Simon's Rock College.

Areas of concern (primarily stormwater, as marked on the Town's Critical Facility map):

- Green River – flooding. Removal of trees and other debris has helped.
- This location was an issue. A bridge has been raised, which helps prevent flooding. Could be a concern in the future.
- Undersized culvert in this location. The downhill side of the road is a residential development which is affected by storm run-off.
- There is flooding in this location every 3-4 years, though little runs over roads. A new dam (Smiley's Pond Dam, privately owned) is being installed which may change the condition. The

Board of Health has moved the septic systems (approximately 6 of them) to higher ground. One or more may still need to be moved.

- Prospect Lake Dam – see dams under general notes.
- Town Hall's marking lot doesn't drain well and floods during stormwater events. All run-off from the surrounding hillsides and buildings affects the parking lot, which is the area low-point. It is regarded a couple of times per year. That is the only critical facility at risk.
- In this location water comes across the road during storms. It usually remains for a day or two, occasionally longer.
- The hydraulics of this area are not well understood. It seems there are small historic walls holding back water, acting as defacto dams. If there was a breach, the implications are not well understood.
- There is a major logging operation in Alford which may affect Egremont starting around this area.

Egremont Community Meeting #3 Summary

Date and Time: March 3, 2011, 10:00AM

Location: Egremont Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Richmond information included in plan
    d. Next Steps

Meeting Participants:

- Bruce Cumsky, Chair, Selectboard
- Richard Burdsall, Selectman
- Bruce Turner, Selectman
- Mary Brazie, Office Administrator
- Will Brinker, Asst. EMD

BRPC Staff

- Mackenzie Greer

General notes:

- The Selectmen and emergency responders attending had reviewed the plan and offered a number of suggestions and had a few additional comments/questions.
- Small changes have been made directly to the Plan Revision document.
- QUESTIONS/COMMENTS on content:
    - Please add a problem flooding area (to the map, text and matrix) as the juncture of Mount Washington Road and Jug End Road (to the west of Rt. 41).
    - Please add a problem area (to the map, text and matrix) as the juncture of Shun Pole Road and Rt. 71, west of Mill Road. Here the brook overflows and washes out the road due to an inadequate culvert.
    - In similar fashion to other towns, add a note about the challenges removing trees and debris near water sources.

Great Barrington Community Meeting #1 Summary

Date and Time: June 14, 2010

Location: Great Barrington Town Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Great Barrington

Meeting Participants:

Community Representatives

- Alana Chernila, Selectman
- Stephan Bannon, Selectman
- Walter Atwood, Selectman
- Deb Phillips, Selectman
- Sean Stanton, Selectman
- Kevin O'Donnell, Town Manager
- Ed McCormick, Deputy Fire Chief
- Joe Sokul, DPW Superintendant
- Marcie Ryan, Town Clerk
- Loretta Territa, Resident
- Charlotte R. Isaacs, Resident
- David Scribner, Berkshire Record Reporter
- Elizabeth Ano, Resident
- Adam Mead, Resident
- Eileen Mooney, Resident and local newsletter reporter
- *This meeting was broadcast live on public access cable television.*

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

There were no specific comments given by the Selectboard; they look forward to responding to the draft report when it is complete.

Great Barrington Community Meeting #2 Summary

Date and Time: October 19, 2010

Location: Great Barrington Fire Station

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Joe Sokul, DPW Superintendant
- Will Brinker, Emergency Management Director
- Chris Rembold, Town Planner

BRPC Staff

- Mackenzie Greer

General notes:

- The major areas which impact infrastructure are related to flooding at around the Green River and Williams River.
- DAMS
    - See area of concern #1; Lake Mansfield Road
    - Rising Dam on Rising Pond Road. This is a private dam; some work was done on it 10-15 years ago. The condition is unknown. There isn't a great deal of water; it won't cause major flooding but there is the potential for contamination.
    - East Mountain Dam. This is a private dam owned by the Great Barrington Fire District. There has been some maintenance in recent years, but exact status was unknown.
    - Long Pond Dam. If there was a breech it would take out the drinking water supply; the condition is unknown as the dam is privately owned.
    - Bear Town Dam. It was redone recently.

Areas of concern (locations are noted on the Critical Facility Map):

1. Lake Mansfield road is a concern. The road acts as a defacto dam (see followup note) and is an area of concern.
2. Green River/Seekonk road: Experiences flooding and road washout. This area was affected during the December 2008 ice storm.
3. Round Hill Road: This was another area of concern in December, 2008; here there are extreme river crossings.
4. Area behind Cumberland Farms: There is a drainage pond which, in the winter months, floods and impacts businesses, with waters reaching Route 7.
5. There is a Stormwater Master Plan which has just been completed for the Castle Hill drainage area. 5b.) There has been a village study for the area of Housatonic. The main concerns are

outlets that go under mill buildings, causing basement flooding. There are no easements on outlets and the Town would like to eliminate the cross-country drainage.

6. Critical Facilities
    a. Wastewater Treatment Plant has the potential for great flooding. There have been high waters in the area in recent years with some flooding experienced. Other facilities are in good positions.

Mitigation work done to date:

- Stormwater Master Plan in progress.

Great Barrington Community Meeting #3 Summary

Date and Time: March 14, 2011, 7:00PM

Location: Great Barrington Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Richmond information included in plan
    d. Next Steps

Meeting Participants:

- Kevin O'Donnell, Town Manager
- Sean Stanton, Chairman, Board of Selectmen
- Deborah Phillips, Selectman
- Walter Atwood, Selectman
- Alana Chernilla, Selectman

BRPC Staff

- Mackenzie Greer

General notes:

- There were no questions or concerns expressed. A few notes were made about outdated information on the list of critical facilities.
- Small changes (including the critical facilities) have been made directly to the Plan Revision document.

Hancock Community Meeting #1 Summary

Date and Time: May 18, 2010

Location: Hancock Town Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Hancock

Meeting Participants:

Community Representatives

- Martin Hanson, Selectman
- Art Williams, Jr. Selectman
- Nettie R. Hammond, Assessor
- Genie, Town Assistant

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

Areas of concern for the Selectmen:

- A beaver dam which washes out regularly, north of the town school.
- Whitman Road had an extreme case of flooding last summer during severe storms.
- Two culverts on Madden Road washed out during same storm.
- How much of town is actually in the floodplain? Taylor Road is likely in the floodplain.

Hancock Community Meeting #2 Summary

Date and Time: October 19, 2010, 7:15PM

Location: Hancock Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- David R. Rash, Fire Chief
- Stephen Raver, EMD, Asst. Fire Chief
- Sherman L. Derby Sr., Selectman
- Martin Hansen, Selectman

BRPC Staff

- Mackenzie Greer

Areas of concern (locations are noted on the Critical Facility Map):

1. There is a pond with beaver activity that is owned by Jiminy Peak. The location is Whitman Road and flooding that occurs impedes resident's access to the road. It has also flooded Bob's Campers. They have been trying many methods of controlling the dams but the concern persists.
2. This wetland area is at the village, close to the stream. The road is the low-point (elevation rises to the northwest). The Army Corps installed a drainage system, raising riverbed walls and dredging the brook. However, overtime vegetation has grown, changing the dynamic of the area. The areas that flood are residential; there is a bridge on Clark road but it is safe from flooding.
3. Madden Road. There is a culvert that can't handle water. In instances it flows over, washing out the road during major storms.

Other areas of concerns:

- The state runs route 43. They will now about any maintenance or hazard issues. Contact Larry Salvatore.
- There are two power companies – National Grid and Mass Electric – which service the Town of Hancock. They are being more proactive with tree-trimming.
- CRITICAL FACILITIES
    - Clark Road has the highway department building and that area experiences some flooding.
    - The school is in front of the beaver dam issue.
- COMMUNICATIONS

- Emergency calls from cell phones often get dispatched to New York State or other dispatch centers not in Berkshire County.
- Verizon and ATT provide some coverage but since there is only one tower, if power is lost there will be no cell coverage.
- The State Police patrol the town; they would be good contacts about communications coverage throughout Hancock.
- Fire Department dispatch coverage is minimal; the BC Sherriff's dispatch sends a message to the station and through an encoder the signal is sent to responders at least by beeper. Dispatch is putting a high tower/transmitter at the jail which should improve conditions.

Mitigation work done to date:

- See #1

Hancock Community Meeting #3 Summary

Date and Time: March 15, 2011, 12:00PM

Location: Hancock Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Richmond information included in plan
    d. Next Steps

Meeting Participants:

- Sherman L. Derby Sr., Selectman
- Martin Hanson, Selectman
- Art Williams, Jr. Selectman
- Genie, Town Assistant

BRPC Staff

- Mackenzie Greer

General notes:

- The Selectmen and emergency responders attending had reviewed the plan which they felt accurately depicted their concerns.
- There was some discussion about the difficulty in working with/funding projects which cross private property.
- Small changes have been made directly to the Plan Revision document.

Lee Community Meeting #1 Summary

Date and Time: June 20, 2010

Location: Courtroom, Lee Town Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Lee

Meeting Participants:

Community Representatives

- Patricia Carlino, Selectman
- David Consolati, Selectman
- Gordon Bailey, Selectman
- Bob Nason, Town Administrator
- Chris Pompi, DPW Director
- Ronald Glidden, Chief of Police
- Rich Vinette, Director, Lee CDC
- Beverly Trombley, Representative, District 5
- Suzanne Alderman, Administrative Assistant
- Ned Oliver, Reporter, Berkshire Record
- Chris Collins, Resident
- Shaun Mahoney, Resident
- David Parker, Resident
- Andrew Miller, Resident
- Malcolm Chisholm, Resident
- Mark Williams, Resident
- *The meeting was also broadcast live on local public access television.*

BRPC Staff

- Mackenzie Greer

Specific comments from meeting:

- There was a flood in October of 2005 which impacted the local water source.
- At the bottom of Fairview Street there is an improperly sized culvert which causes flooding.

Lee Community Meeting #2 Summary

Date and Time: January 6, 2011, 10AM – 11:30AM
Location: LeeTown Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review Town Map to Identify Natural Hazard Problem Areas and Affected Critical Facilities
3. Discussion of Existing Mitigation Measures
4. Discussion of Possible Mitigation Steps

Meeting Participants:

- Police Chief Ronald Glidden
- DPW Superintendant Christopher Pompi

BRPC Staff

- Mackenzie Greer

General notes:

- Dams
    - Goose Pone Dam in Tyringham. This is a concern because of its size and direct impact on Lee. It is owned by the Goose Pond Association and is maintained.
    - Willow Hill area dam. This dam is well-maintained but if it was compromised, it would be a concern to Stockbridge. The area in general experiences flooding which primarily affects houses on the south side of the road.
    - GE/Woods Pond Dam. This is the location of the highest PCB concentration in the county. There are no issues with the dam, but there is potential for serious contamination if it was breeched.
    - Lehey/Water Treatment Plant: This is considered a high hazard dam. It is inspected every two years and the Town of Lee is the owner.
    - School House Dam/Lake: (located in Washington?) Owned by DCR.
    - Historic dam: There was a dam in Lee which was breeched in 1963, taking out much of East Lee. There is no longer a dam in that location.
    - Laurel Lake Dam: maintained by the Laurel Lake Association.
    - Outlet Village: The Chief of Police has worked with the General Manager of the Outlet village to address mutual concerns about procedures during major storm events such as Tornado, snow cave-ins, etc. The concerns stem from the large number of people who may be there at one time and because of the village's exposed location.
- Tree-trimming – Western Mass Electric is very responsive. They do have a lot of trees and limbs that fall but they aren't any one particular species or area of town. Lee itself was not affected by the December 2008 ice storm.
- Mass Pike – The turnpike location is "high and dry." The only natural hazard issue is the potential for forest fires because the road is surrounded by forest.
- In general, critical facilities are not located in areas of concern.
- Shelters – while a number of shelters are listed in the critical facility list, the Middle and High Schools serve as the primary emergency shelter.

- Beaver activity – see #3 below, there is also a cage at Laurel Lake (same location as new culvert, #1).

Areas of concern (primarily stormwater, as marked on the Town's Critical Facility map):

- Laurel Lake area: Mass DOT and DCR are currently putting in a new culvert to address this area of persistent flooding. It is a low-point in the road and when the lake level rises, the water flows over the road.
- Rt. 102/Marble Street: Water flows from a marshy wet area over the road, undermining the infrastructure, primarily in the spring or during big snow events. There is a residence that is regularly impacted. No mitigation measures have been identified.
- Fairview Street: there is beaver activity here which the town monitors. They have a permit to trap beavers here and in a few other locations in town, which happens a few times a year. At the Fairview location beavers have built extensive dams.
- Meadow Street near Oak 'n Spruce: During storm events this small creek handles a very large amount of water, primarily from mountain run-off. The existing culvert is undersized for major storms. This is a highly populated area (Oak 'n Spruce Resort).
- Meadow Street at Drake's junk yard: The junk yard and residence at this location floods (in the flood plain)
- Mass Pike: There are inadequate drainage swales in this location. There are icing issues because of the poor drainage authority. The Town regularly works with Mass DOT to maintain the area.
- Mass Pike: The culvert at this location cannot handle the amount of water draining into it from the turnpike. The road infrastructure is damaged and residences are affected.
- Water Treatment Plant: The WTP's location toward the bottom of a watershed area results in a strong aquifer recharge in this area. The plant has infiltrators in the ground (holding tanks for slow groundwater percolation) which were overwhelmed in a recent storm. It cost the Town about $1M to fix. The gravel road leading to the plant is maintained each year as the gravel washes away and exposes the Town's main water line. A complication in this area is that the road is privately owned. Also, the forest around the WTP is kept 100' away from the building to minimize wildfire threats.

Lee Community Meeting #3 Summary

Date and Time: February 15, 2011, 7:30PM

Location: Lee Memorial Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Williamstown information included in plan
    d. Next Steps

Meeting Participants:

- Gordon D. Bailey, Chairman, Board of Selectmen
- Patricia Carlino, Selectman
- David Consolati, Selectman
- Robert Nason, Town Administrator
- Sue Alderman, Administrative Assistant
- Chief Ronald Glidden, EMD, Police Chief
- This meeting was broadcast on local cable access.

BRPC Staff

- Mackenzie Greer

General notes:

- The Selectmen asked a few clarifying questions and offered some comments about the plan after hearing the overview.
- The structurally deficient bridge noted in the plan is currently being replaced. This should be noted or the bridge status changed.
- What time period do the flood claims cover? They totaled approximately $18,000.
- There are modifications proposed or soon to be underway for the low point on Route 20 at Laurel Lake. The status of these modifications should be checked and added to the plan.
- They were asked to give any additional comments by March 31st and the BRPC website was mentioned for the viewing public if they want to review the plan and make comments.

Lenox Community Meeting #1 Summary

Date and Time: March 24, 2010, 7:00PM

Location: Lenox Town Hall, Lenox Select Board Meeting Room

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Lenox

Meeting Participants:

Community Representatives

- Greg Federspiel, Town Manager
- Linda Messana, Selectman
- Dia Transyager, Selectman
- Dan Clifford, Fire Chief
- Ken Fowler, resident and Lenox Planning Board member
- The meeting was also broadcast on local access television

Specific comments from meeting:

When the Fire Chief was asked about what hazards are of concern to Lenox, he responded:

- Areas around the floodplain
- Areas which experience constant flooding
- Dams – the CEMP will be helpful
- Cleveland Reservoir is a new concern (one of Pittsfield's drinking water supplies, located in Hinsdale)
- Wind and other severe storms
- Most catastrophic = tornados, but they are challenging to plan (shelters, evac. Plans help)

Another question was asked about whether beaver dams are considered in the study. The Fire Chief said their locations are identified and results of a breach are projected. Beaver dams are one area where citizens can be particularly helpful, as residents may know the locations best.

During the response period, Chief Clifford said he would be working closely with Jeff Vincent, Lenox's Superintendent of Public Works.

Lenox Community Meeting #2 Summary

Date and Time: June 14, 2010

Location: Lenox Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Jeff Vincent, DPW Director
- Greg Federspiel, Town Manager
- Steve O'Brien, Police Chief
- Dan Clifford, Fire Chief

BRPC Staff

- Mackenzie Greer

The group made a large number of corrections to the Critical Facilities spreadsheet. Changes have been made to the critical facilities spreadsheet.

General notes:

- In general, Lenox has beneficial topography and a strong stormwater maintenance program which prevent most issues of flooding. Their issues tend to be ice/wind storm related and concerns about tornados. They are managing tree-trimming well.
- The storm frequency and
- The group suggested their vulnerability chart should remain the same as it was in Lenox's 2005 Annex.
- Dams will be inspected this month (June, 2010); BRPC should follow-up with an information request in July. Farnwash (Farnam?) and Cleveland should be added to Lenox's inundating dams.
- West Street's stormwater system will be modernized in 2011; this one of the most flood-prone areas. Lenoxdale's stormwater system was updated in 2000.
- An Emergency Action Plan was developed for all dams.
- The state is developing its own shelter plan. Locally, the issue with shelters is staffing and equipping them.

Areas of concern:

- Roaring Brook Road has culverts which get blocked because of beaver activity. This issue affects stormwater flow. There was also an ice jam in this brook 5-7 years ago.
- There are stormwater overflows at the Henry Avenue pump station – during a storm incident, capacity is exceeded, causing combined sewer overflow.

Lenox Community Meeting #3 Summary

Date and Time: March 23, 2011, 7:00PM

Location: Lenox Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Sheffield information included in plan
    d. Next Steps

Meeting Participants:

- Linda Messana, Selectman
- Dia Trancynger, Selectman
- Kimberly Reopell Flynn, Selectman
- Ken Fowler, Selectman
- Gregory Federspiel, Town Manager
- Daniel Clifford, Fire Chief

BRPC Staff

- Mackenzie Greer

General notes:

- The Selectmen and emergency responders attending have the plan to review; minimal specific comments were made. The Selectmen generally deferred to the Fire Chief to comment on how well the plan represents the problem areas in Lenox.
- The Selectmen were advised about how and when to respond with comments.
- MG made small changes and notes to the revised plan following her review.

Monterey Community Meeting #1 Summary

Date and Time: May 17, 2010 4:00 PM

Location: Monterey Town Hall

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. What natural hazards affect the Berkshires
4. Contents of natural hazard mitigation plan
5. Public input about natural hazards in Monterey and locations, if known

Meeting Participants:

Community Representatives

- Scott Jenssen, Selectman
- Jon Sylbert, Selectman
- Wayne Burkhart, Selectman
- Sue Protheroe, Monterey News – Reporter
- Melissa Noe, Inter-Departmental Secretary

BRPC Staff

- *Brian Domina*

Specific comments from meeting:

Selectboard and public comment indicated the following concerns:

- Flooding all around Lake Buel causing loss of property
- Winter Storms
- Dam Failure (Brewer Dam – unnamed dam behind general store – Hartsville Dam [New Marlborough])
- Beavers (Heron Pond [Tyringham])
- Flooding
- Road Flooding/Washouts
    - River Road (still closed)
    - Upper Beartown Road
    - Sandisfield Road (beavers)
    - New Marlborough Road (two small bridges)(Rawson Brook)
    - Wellman Road (near Gould Road)

Other Concerns

Monterey is very concerned about the spread of zebra mussels originating from nearby contaminated bodies of water. The town is concerned that an infestation of zebra mussels in Lake Buel will significantly lower property values along the water and therefore tax revenue.

The selectmen also discussed the idea that other non-native plants and animals might be included in the plan (asian milfoil weed).

A question arose as to whether or not road salt contamination of freshwater sources (wetlands, wells) could be included in the plan?

Monterey Community Meeting #2 Summary

Date and Time: August 26 3:00 PM

Location: Monterey Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Maynar Forbes, Highway Superintendent, Assistant Fire Chief
- Gareth Backhaus, Police Chief

BRPC Staff

- Brian Domina

Specific comments from meeting:

The group suggested one change to the Berkshire Potential Vulnerability to Future Natural Hazards.

- The frequency for major urban fires in Monterey should be moved to very low. Monterey has no urban areas.

The group made a number of corrections to the Critical Facilities spreadsheet. Changes have been made to the critical facilities spreadsheet.

The majority of time spent at the meeting was centered upon the Town Map. The group identified areas of concern with respect to natural hazards, mostly related to flooding.

- The largest area of concern is the flooding that occurs around Lake Buel. According to the group Lake Garfield and Lake Buel are linked. The outlet from Lake Garfield forms a brook which meanders almost a mile before it joins the brook formed by the outlet from Lake Buel. Just downstream of where these brooks meet, silt commonly builds up and will cause water to backwash into Lake Buel (Lake Garfield is in effect draining into Lake Buel) This happens very frequently and floods 20 – 30 homes on a regular basis. The problem is that the silted brook is located in New Marlborough. The Lake Buel District owns the roads.

- In contradiction to the first meeting – Upper Beartown Road does not have flooding problems; Sandisfield Road has beavers but does not flood

- Fairview Road (gravel road) washes out on a regular basis

- Occasional flooding on Curtis Road on a small bridge
- Flooding occurs on Wellman road at a small bridge
- Significant flooding on Robinson and Harmon Road
- The dam at Lake Garfield is a high hazard dam – good condition
- River Road is still closed because Hatchery Road (New Marlborough) is washed out.
- A perceived need exists to allow communities to clean waterways of debris

Existing Mitigation Measures

- Regular inspection of dam at Lake Garfield (2 years)
- Regular ditch maintenance
- Regular catch basin maintenance
- Replacement of smaller culverts with larger ones when necessary (2 replaced in the last several years)

Mitigation Steps

- Commission study to look at the Lake Buel and Lake Garfield issues. This is the number one priority for this group.
- Replace bridges on Wellman Road, Robinson/Harmon, and Wellman Roads
- Research process and grant funds to remove blockages in waterways caused by trees/stumps/logs
- Pave and install a better drainage system on Fairview Road
- (floodplain bylaw)
- (stormwater bylaw)

Monterey Community Meeting #3 Summary

Date and Time: March 7, 2011 @ 7:00 PM

Location: Monterey Town Hall

Discussion Topics:

Summary of Plan Development
Review Plan
    Risk Assement
    Existing Protections
    Action Steps
Comments

Meeting Participants:

- Scott Jenssen, Selectboard
- Jon Sylbert, Selectboard
- Wayne Burkhart, Selectman
  Sue Protheroe, Monterey News – Reporter

BRPC Staff

- Brian Domina

Comments

Edits to critical facilities:

Under special needs "Camp Half Moon is listed twice"

New England Keswick & KSA listed under special needs should also be listed under the Camps heading

MONTEREY HAS NO DESIGNATED SHELTERS IN THE TOWN. (please delete all under that heading)

Please edit flood prone areas:

(add) Beartown Mountain Road (two bridges subject to flooding)

Please edit (Structurally Deficient Bridges…"

The bridge on River Road has been repaired and should not be listed.

Please edit existing protection matrix:

"Ditch Maintenance" under improvements needed insert "continue maintenance" instead of none

"Catch Basin Maintenance" under effectiveness insert "mostly effective" and under improvement needed insert "continue maintenance."

Please edit mitigation action plan:

"prevention, natural resource protection" add the word "silt" after logs.

Add a new structural project to address the addition of Beartown Mountain Road as a flood prone area.

Add a new section on beaver activity and control.

New Marlborough Community Meeting #1 Summary

Date and Time: August 9, 2010 at 6:15 PM

Location: New Marlborough Town Hall

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. What natural hazards affect the Berkshires
4. Contents of natural hazard mitigation plan
5. Public input about natural hazards in Sandisfield and locations, if known

Meeting Participants:

Community Representatives

- Tara White, Selectwomen
- Charles Loring, Selectman
- Michael Skorput, Administrative Assistant
- Owen Haberman, Resident
- Charles Gregor, Resident
- Suzanne Meen, Resident
- Charles Portan, Resident
- Bill Daioli, Resident
- Nat Yolialin, Resident

BRPC Staff

- Brian Domina

Specific comments from meeting:

Selectboard and public comment indicated the following concerns:

- All comments centered upon the Konkapot River. Many areas along this river flood.
- Hatchery Road (flooding)
- Clayton Mill River Road (flooding)
- Debris in the river is not removed and is building up. If forced down the river by floodwaters could damage infrastructure.

Other Concerns

None at this time

New Marlborough Community Meeting #2 Summary

Date and Time: September 20, 2010 at 5:00 PM

Location: New Marlborough Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Barbara Marchione, Emergency Management Director
- Will Brinker, Deputy Emergency Management Director
- Peter Scala , Fire Chief

BRPC Staff

- Brian Domina

Specific comments from meeting:

The group suggested a single change to the Berkshire Potential Vulnerability to Future Natural Hazards.

- The group suggested moving "major urban fires" from low to very low because New Marlborough doesn't have any urban areas or structures built so close together that a major urban fire could occur.

The group made a number of corrections to the Critical Facilities spreadsheet. An electronic copy of the critical facilities was sent to the EMD to correct and return to BRPC.

The majority of time spent at the meeting was centered upon the Town Map. The group identified areas of concern with respect to natural hazards, mostly related to flooding and inability of many of the road systems to deal with heavy rain.

- One major area of concern was the flooding at Lake Buel. This is a cross border problem with Monterey and should be noted as such. As described in the Monterey notes, the outlet to Lake Garfield meets with the outlet to Lake Buel and rain water will backup into Lake Buel because the channel downstream cannot handle the water.

- The Lake Buel outlet (Konkapot River) repeatedly causes flooding along its length as it runs through the town (Monterey line to Connecticut). The stream banks along the roadway are in danger of washing into the stream and compromising the roadway.

- Hatchery Road is still closed because it washed out over a year ago and the funds are not available to fix it. This area still floods as well.

- Flooding along New Marlborough – Monterey Road due to beaver activity. The beaver pond extends well above the roadway and the possibility exists that if the dam breaks the roadway could be compromised.

- Flooding concerns along New Marlborough – Southfield Road. An old metal/concrete bridge exists and is in disrepair. In this same area, where the roadway comes close to the stream – the banks are beginning to washout - which could compromise the roadway. **If this bridge/road were to washout – the EMS services could not reach the northern part of Town in a timely manner (at least a ten minute detour). (Highest Concern)**

- Flooding concerns along Hadsell Street and concerns over the condition of the old concrete bridge **(Second Highest Concern)**

Existing Mitigation Measures

- A number of flood control dams are located in the southeastern portion of the town
- Incomplete system of culverts

Mitigation Steps

- Adopt stormwater control bylaw to prevent large increases of stormwater being dumped onto public ways
- Amend subdivision regulations/zoning to restrict discharge of stormwater
- Replace bridges on Hasdell and New Marlborough Southfield Road
- Rebuild Hatchery Road with larger culverts
- Conduct dredging activities on Konkapot River south of Lake Buel to relieve flooding issues
- Strengthen stream banks along the Konkapot River where bank erosion along the road is a problem.

New Marlborough Community Meeting #3 Summary

Date and Time: April 11, 2011 @ 6:45 PM

Location: New Marlborough Town Hall

Discussion Topics:

Summary of Plan Development
Review Plan
    Risk Assement
    Existing Protections
    Action Steps
Comments

Meeting Participants:

- Barbara Marchione, EMD
- Will Brinker
- Mike Skorput
- Peter Scala
- Tara White, Selectwomen
- Charles Loring, Selectman
- Lawrence Davis, Selectman

BRPC Staff

- Brian Domina

Comments

Edits to Flood Prone Area

(fourth full paragraph) change river to road

Edits to Structurally Deficient Bridges….

Mill River Great Barrington Road and Hayes Hill have been replaced within the past year.

Edits to Mitigation Action Plan

Change Hasdel Road to Hadsell Road

Expand the mitigation step for controlling beaver activity on New Marlborough-Monterey Road to controlling beaver activity town-wide.

Edits to Map

We cannot figure out why Windmere Lake and Thousand Acre Swamp Reservoir are shown in red. According to Barbara they should not be identified as problem areas.

General Questions:

When can NMB apply for PDM money? (can you apply if you have a draft plan?
Can we double check the hazard classification of York Dam?

Otis Community Meeting #1 Summary

Date and Time: May 26, 2010 7:00 PM

Location: Otis Town Hall

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. What natural hazards affect the Berkshires
4. Contents of natural hazard mitigation plan
5. Public input about natural hazards in Otis and locations, if known

Meeting Participants:

Community Representatives

- Howard Levin
- N. Lewis
- Barry Weinstein
- Sonia Kobrin
- Chris Bouchard, Highway Superintendent
- Robert Sousneck
- Donna Thomas, Otis Selectboard
- Donald Hawley, Otis Selectboard
- Andrew Pyenson, Otis Selectboard
- R.R Farina
- Lisa D'Orazio

BRPC Staff

- *Brian Domina*

Specific comments from meeting:

Selectboard and public comment indicated the following concerns:

- Tannery Road Bridges –Flooding Issues
- Algerie Road – Flooding Issues
- West Center Road – Flooding Issues
- Pearl Road – Flooding Issues
- Beavers, Beavers, Beavers (Route 23)
- Flooding all along Farmington River
- Dams
- Hanging tree tops from ice storm (widowmakers)

Other Concerns

The hanging tree tops are a concern. The town is trying to deal with them, but budget is limited.

Otis Community Meeting #2 Summary

Date and Time: September 20, 2010 at 6:15 PM

Location: Otis Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Chris Bouchard, Highway Superintendent
- Rich Phair , Assistant Fire Chief
- Roberta Sarnecki, Police Chief

BRPC Staff

- Brian Domina

Specific comments from meeting:

The group suggested several changes to the Berkshire Potential Vulnerability to Future Natural Hazards.

- The severity of high wind should be moved from minor to serious.
- The frequency of major urban fires should be lowered to very low
-

The group made a number of corrections to the Critical Facilities spreadsheet. An electronic copy of the list has been sent to Chris Bouchard for corrections.

The majority of time spent at the meeting was centered upon the Town Map. The group identified areas of concern with respect to natural hazards, mostly related to flooding and inability of many of the road systems to deal with heavy rain.

- The Farmington river floods over Route 8 south of the center of town and could present issues for emergency vehicles.

- Beavers are causing flooding along Great Barrington Road

- Tannery Road is subject to flooding and needs a larger culvert/bridge (**Second highest priority)**

- An old stone culvert along Lee-Westfield Road needs to be replaced

- Flooding occurs along West Center Road (south of Pearl Road)

- Reservoir Road would be in danger of washing out if water from Otis Reservoir is every released in large quantities due to dam failure or heavy rain and the small size of the culvert under the road. **(Highest priority)**

Existing Mitigation Measures

- Flood Plain Bylaw
- Culvert and ditch drainage system
- Regular maintenance of drainage system
- Driveway standards to not shed water onto roadway

Mitigation Steps

- Remediate flooding issues on Route 8
- Replace culverts on Reservoir Road
- Replace bridge on Tannery Road to allow more water to flow under bridge.
- Continue with exemplary maintenance schedule of drainage infrastructure.

Otis Community Meeting #3 Summary

Date and Time: March 8, 2011 @ 7:00 PM

Location: Otis Town Hall

Discussion Topics:

Summary of Plan Development
Review Plan
    Risk Assement
    Existing Protections
    Action Steps
Comments

Meeting Participants:

- Lisa D'Orazio, Executive Assistant
- Donna Thomas, Otis Selectboard
- Donald Hawley, Otis Selectboard
- Andrew Pyenson, Otis Selectboard
- Chris Morris, Town Administrator

BRPC Staff

- Brian Domina

Comments

Please edit flood prone areas:

Delete "Great Barrington Road" and insert "Monterey Road"

Please edit Mitigation Action Plans:

Delete "Great Barrington Road" and insert "Monterey Road"

Add an action item dealing with Hayden Pond Dam – which is listed as unsafe (Note to Mark – not sure what the action item would be – contact dam owner?)

Pittsfield Community Meeting #1 Summary

Date and Time: Tuesday, June 29, 2010

Location: City Council Chambers, Pittsfield City Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Pittsfield

Meeting Participants:

Community Representatives

- City Council Public Health & Safety Committee:
  - John Krol, Chairman
  - Paul Capitano
  - Peter Marchetti
  - Christine Yon
  - Peter White
- Mike Ward, City Councilor
- Pat Hogan, Committee Clerk & DPW Office Manager
- The meeting was broadcast live on local access television.

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

There were a few questions about the process and one about what role Commissioner Collingwood should have for this plan. He is the community contact and there was concern that he should not have this additional burden.

Pittsfield Community Meeting #2 Summary

Date and Time: October 21, 2010, 10:00AM
Location: Public Works Offices

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Bruce Collingwood, DPW Director
- Ryan Grennan, GIS Coordinator
- Bob Czerwinski, Pittsfield Fire Department, Chief/Emergency Management Director
- Tom Foody, Highway Department, Superintendant
- Peter E. Bruneau, Highway Department, Working Foreman and Highway Maintenance Craftsman

BRPC Staff

- Mackenzie Greer

General notes:

- Dams:

  Pontoosuc: Pittsfield controls the dam; the state owns it. Onota dam is in good shape. There are no other city-owned or controlled dams in Pittsfield. These dams are compliant with inspections.

  A. Belair Dam – concern; privately owned; owner has no financial means to fix the dam
  B. Housatonic Dam – owned by Ken Nash; City is working with Nash
- Tree-trimming – Tree trimming is more proactive now but emergency response has not been improved.
- Incident tracking – will improve from April 2010, when a work order system was created. Prior to this time records are less detailed.
- In general, critical facilities are not located in areas of concern.

Areas of concern (primarily stormwater):

- Upper North near Eli's (owner) – undersized culvert; road floods during summer storms; sediment flows onto road.
- Pittsfield Plaza – Owners have significantly cleaned up the area; added a retention area; Army Corps structure is now being maintained.
- Beaver activity – South Mountain
- Beaver activity – Fort Hill Road
- Glen Drive – they are using a "319" grant to make the river less flashy; removing sediment; near Oak Hill needs regular maintenance. Melissa Provencher is involved.

- Dalton Ave – A culvert has been cleaned out which helped with flow but there are additional issues caused by beaver activity.
- Leona Drive – beaver activity.
- Wahconah Park – a new stormwater system has been designed. The current system is collapsing in on itself. Would this be a good option for PMDF funds?
- Center and West – water gets trapped in a low-lying area.
- West Street – water flow issues are caused by beaver activity and run-off from the mountain.
- Street (?) – there is an undersized, open ditch, causing flooding.
- Elm and Newell Streets – poorly design drainage system which is on private property; also takes city stormwater.
- Plum and Holmes Roads - #878 is a private residence (there may be more than one with an issue in this location) that experiences flooding. Road infrastructure is compromised as water flows across it; stormwater can't be handled by current system.
- There is a bermed area which impacts residences; won't be expensive to fix but permits are a concern.
- Marchesial Park – a drainage plan has been prepared and the City is working with DEP on this.

Mitigation work done to date:

- There are a number of mitigation measures mentioned in previous sections.

Pittsfield Community Meeting #3 Summary

Date and Time: March 21, 2011, 7:30PM

Location: Pittsfield City Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Sheffield information included in plan
    d. Next Steps

Meeting Participants:

- Public Health and Safety, Sub-committee of the Pittsfield City Council
    - John Krol, Chair
    - Paul Capitano
    - Peter Marchetti
    - Christine Yon
    - Peter White

BRPC Staff

- Mackenzie Greer

General notes:

- The councilors attending have the plan. They were advised about how and when to respond with comments.
- No specific comments were received.
- MG made small changes and notes to the revised plan following her review.

Richmond Community Meeting #1 Summary

Date and Time: May 12, 2010, 7:00PM

Location: Richmond Town Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Richmond

Meeting Participants:

Community Representatives

- Matthew Kerwood, Town Administrator
- Margaret J. Rawson, Chairman, Selectman
- R.W. Marnzolino (?), Selectman
- Alan B. Hanson, Selectman
- Katherine W. Zahn, Town Secretary
- Tomas G. Grizey, Emergency Management Director
- Barbara Finn, Reporter for Richmond Record

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

Areas of flood concern are became known during a storm in summer, 2009. Dean Hill, West, Swamp and Furnace Road all were flooded with areas of extreme washout. There was an issue of personal safety because two washouts left some residents (one severely handicapped) with no evacuation route, except by helicopter.

Selectmen were interested in discussing aspects of Emergency Management Planning that are beyond the scope of this hazard mitigation planning process, such as back up of information systems and sinkholes (a recent news article from a town in Canada).

Selectmen expressed concern about a signed agreement to reimburse BRPC $4500 if Richmond does not adopt the final HMP. Followup about the reasoning behind this requirement should be directed to the Town Administrator.

Richmond Community Meeting #2 Summary

Date and Time: June 14, 2010

Location: Richmond Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Gerald Coppola, DPW Director
- Paul M. Sintoni, Fire Department
- Thomas G. Grizey, Emergency Management Director
- Matthew Kerwood, Town Administrator

BRPC Staff

- Mackenzie Greer

The group made a large number of corrections to the Vulnerability Chart, which has been updated for the Town.

Areas of concern:

- Older culverts in the town are an issue; many are undersized. Today the stormwater flow needs are greater because of precipitation patterns and increased development. 25-30 years ago they were sufficient in capacity and design.
- The road flooding/washout concerns are greatest on Steven's Glen, Dean Hill and West Roads.
- In the last two years Richmond has experienced two (2) 100-year storms.
- Many local residents do not understand the purpose, necessity or personal responsibility of culverts.
- Steven's Glen Road culverts need modernization now.
- Some of the challenge in getting this work done is moving it through the Conservation Commissions faster.
- Tree trimming is a major concern and problem for the town. A quick estimate of $40-80,000 was made, though the actual costs could be much higher. They have difficulty getting the utility company's response to their requests. Trees falling during storms have the potential to block roads. The town doesn't have the manpower to reopen them immediately. A comprehensive plan for identifying priority trees, expedited approval from the Conservation Commission, and identifying funding are the current needs.
- They would like to identify dead zones for cell service – in particular this is a need for emergency responders. In general, the dead zones are around Bartlett's Apple Orchard, Summit HillRailroad Bridge and Dublin Hill Road area and around Route 295/New York State Line.

- The border Richmond shares with New York State is an issue. The town is more aligned with NY State in weather patterns; often something that affects them severely may not impact the rest of Berkshire County, making it difficult to get money for relief.
- Easements on private land for stormwater mitigation measures would be helpful. There are very few currently. A first step is getting easements for undeveloped areas which have necessary (or need) stormwater swales.
- Another tack would be getting the Planning Board more involved in the issuing of permits, having visual inspections of the areas. New development plans could incorporate more water flow analysis.
    - Modification of the building permit process.
    - Location of Title 5 septic systems should consider stormwater flow.
    - Size of culverts at ends of driveways should be increased from 15 to 18".
    - Homeowners need to maintain their culverts – reach them through outreach/education or enforce requirements.
- One challenge is that half of Richmond's roads are gravel. While many residents are opposed to paving the roads, the worst areas could be identified and those sections paved.
- Radio frequencies are changing and the Town has to do a major upgrade to the Fire Department's equipment ($42,000) and DPW ($12,000).
- There is an earthen dam at the Lakeside Christian Camp which is not being maintained. If that dam was breached or lost, it would result in property value loss and ecosystem damage. It would lower the capacity of Richmond Pond (90 homes, lakeside and Whitewood has 130).
- See Richmond's map for annotation re: areas affected by stormwater.

Mitigation work done to date:

- Changed some culverts which were 10-12", now are 18-20".
- In the fall, they blow leaves out of the ditches to maintain area for stormwater flow.

Richmond Community Meeting #3 Summary

Date and Time: March 2, 2011, 6:30PM

Location: Richmond Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Richmond information included in plan
    d. Next Steps

Meeting Participants:

- Alan Hanson, Chair, Selectboard
- Marguerite Rawson, Selectman
- Matt Kerwood, Town Administrator
- Tom Grizzey, Emergency Management Director
- Gerald Coppola, DPW
- Katherine W. Zahn, Town Secretary

BRPC Staff

- Mackenzie Greer

General notes:

- The Selectmen and emergency responders attending had reviewed the plan and offered a number of suggestions and had a few additional comments/questions.
- Small changes have been made directly to the Plan Revision document.
- QUESTIONS/COMMENTS on content:
    - In the "Flood-Prone Areas" Section (pg. 110 for Richmond) break the water sources into a chart and add a column with the location of each. There were a number of questions about where they were, such as Crystal Lake.
    - MAP – add a line with the Railroad tracks. Along the tracks there are many culverts which flood frequently. This note and the mapping still need to be changed/added.
    - Richmond also requested that a column for location of dams be added.
    - Please clarify the loss estimate information on page 112. There are losses reported in the chart, but the first sentence reads that there was one flood insurance claim which totaled $0.
    - ADD a row to the Existing Protections Matrix – Richmond has been utilizing the beaver tricking devices for some time, in multiple locations, with good success. They are referred to as low flow, or levelers.

Sandisfield Community Meeting #1 Summary

Date and Time: May 24, 2010 4:00 PM

Location: Sandisfield Town Hall Annex

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. What natural hazards affect the Berkshires
4. Contents of natural hazard mitigation plan
5. Public input about natural hazards in Sandisfield and locations, if known

Meeting Participants:

Community Representatives

- Dolores Haresyko, Town Clerk/Administrative Assistant
- Patrick Barrett, Selectman
- Jeffrey Gray, Selectman
- Richard Campetti, Selectman
- John Burrows, Emergency Management Director
- Chris Rines, Highway Superintendent
- J. Constant, Sandisfield Resident

BRPC Staff

- *Brian Domina*

Specific comments from meeting:

Selectboard and public comment indicated the following concerns:

- Intersection of Route 57 and Silverbrook Road frequent flooding (recently flooded out local café). According to Highway Superintendent the drop inlet box is too small and the outlet pipes are too small.
- Culvert on Route 57 (near house # 73) too small – creates flooding
- Five dams in town (several ranked as high hazards
- Beavers, Beavers, Beavers (New Hartford Road, Hammertown Road, Cold Spring Road, Upper West Street) – in several instances water behind beaver dam is above the height of the road.
- Significant amount of dry timber on the ground from icestorm
- A large amount of widowmakers (i.e. hanging tree tops) left over from the ice storm
- A large number of diseased trees (ash and elm)

Other Concerns

Actually needed to evacuate a number of homes along Route 57 for fear of flooding from dam failure one or two years ago due to snow melt and heavy rains.

Sandisfield Community Meeting #2 Summary

Date and Time: June 22, 2010 at 5:30 PM

Location: Sandisfield Town Hall Annex

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- John Burrows, Emergency Management Director
- Chris Rines, Highway Superintendent
- Michael Morrison, Police Chief
- Ralph E. Morrison, Fire Chief

BRPC Staff

- Brian Domina

Specific comments from meeting:

Sandisfield has 46 miles of dirt roads and 40 miles of paved/oiled roads

If money is leftover – Sandisfield would like help writing a grant application

62% of Sandisfield is forest – general concerns about forest fires especially in light of dry timber from ice storm.

Sandisfield ran out of money for tree clearing from ice storm and debris and widowmakers still exist.

The group suggested several changes to the Berkshire Potential Vulnerability to Future Natural Hazards.

- Area of Impact for Dam Failure should be changed to Regional due to the number of dams impounding large amounts of water (e.g. Hammertown Road Dam)
- Frequency for tornado should be lowered to low or very low
- Frequency for landslide should be moved to very low

The group made a number of corrections to the Critical Facilities spreadsheet. Changes have been made to the critical facilities spreadsheet.

The majority of time spent at the meeting was centered upon the Town Map. The group identified areas of concern with respect to natural hazards, mostly related to flooding and inability of many of the road systems to deal with heavy rain.

- Continual washing out of Perry Road due to heavy rains.
- Undersized culvert on Hammertown Road causes flooding and wash out of the road.
- Flooding on Sandisfield Road between Hammertown Road and Silverbrook Road. Chapter 90 money has been allocated to fix this problem.
- Flooding on Sandisfield Road between Silverbrook Road and Tannery Road.
    - This segment of Town was evacuated several years ago due to concerns about the Hammertown Road Dam and extremely heavy rain. If the dam had breached many homes along the river would have been flooded.
- Severe washout of Silverbrook Road, the culvert cannot hold the volume of water from heavy rains. A year to two ago a steep section of this roadway washed out, necessitating very expensive repairs to the Town.
- Sears Road has severe erosion and washout problems. The hillside is also sliding into the roadway.
- New Hartford Road is a connector road between two state highways (57 & 183). This roadway is heavily traveled. This roadway has no drainage system installed and during heavy rains the water pools onto the roadway creating dangerous and sometimes impassable conditions. Due to this surface water issue the roadway has begun to deteriorate.
- Concerns were raised about how the rivers and streams are laden with fallen trees, logs, stumps, and branches. That it is difficult to get permits to clean the waterways and that these blockages present hazards for flooding and for bridges, as they float downstream.
- Concerns were raised about the state of culverts and other drainage systems. Sandisfield is strapped for resources and no maintenance program is in place.

Existing Mitigation Measures

- Flood Plain Overlay District Regulations
- Active trapping of beavers
- Incomplete system of culverts

Mitigation Steps

- Adopt stormwater control bylaw to prevent large increases of stormwater being dumped onto public ways
- Amend subdivision regulations/zoning to restrict discharge of stormwater
- Replace culverts on Hammertown and Silverbrook Roads
- Remove excess dry timber in the surrounding forest land and complete work of clearing widowmakers
- Develop and implement stormwater/culvert maintenance schedule
- Research process and grant funds to remove blockages in waterways caused by trees/stumps/logs
- Completely redo New Hartford Road to repair surface and structural damage caused by surface water and to install drainage systems to keep water off road.

Sandisfield Community Meeting #3 Summary

Date and Time: March 21, 2011 @ 7:00 PM

Location: Sandisfield Town Hall Annex

Discussion Topics:

- Summary of Plan Development
- Review Plan
  - Risk Assement
  - Existing Protections
  - Action Steps
- Comments

Meeting Participants:

- John Burrows, Emergency Management Director
- Chris Rines, Highway Superintendent
- Jeff Gray, Selectboard
- Richard Campetti, Selectboard
- Patrick Barrett, Selectboard

BRPC Staff

- Brian Domina

Comments

Please add to flood prone areas:

The Clam River crossing on River Road & Sandisfield (near the old town hall)is subject to flooding and is in poor condition.

DELETE – "The Town has allocated Chapter 90 money to fix this problem"

Please edit the "Structurally Deficient Bridges over Waterways" to:

The Norfolk Road Bridge has been replaced
The structurally deficient bridge on Route 8 is going to be replaced in the Spring/Summer

Sheffield Community Meeting #1 Summary

Date and Time: June 21, 2010

Location: Sheffield Town Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Sheffield

Meeting Participants:

Community Representatives

- Julie M. Hannum, Selectman
- David A. Smith, Selectman
- Rene C. Wood, Selectman
- Joe Kellogg, Town Administrator
- Rhonda LaBombard, Assistant Town Administrator
- Hans Herberger
- Michael Macy
- *This meeting was broadcast on public access public television at a later time.*

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

- The Town Administrator and Selectmen described a current effort aimed at stabilizing a riverbank (Housatonic River) adjacent to a roadway along Route 7. The River has continually washed away the bank, and is impinging on the roadway. Engineering studies are underway. Joe Kellogg will get in touch once the studies are complete in order to ascertain whether project eligibility for a hazard mitigation grant.
- The second stated concern is the number of trees in need of trimming throughout town. There are spruces and other tree species affected by disease, creating such an extensive problem that the Town struggles to keep up with the maintenance.

Sheffield Community Meeting #2 Summary

Date and Time: September 27, 2010, 4:30PM
Location: Sheffield Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
3. Review List of Critical Facilities
4. Review Town Map to Identify Natural Hazard Problem Areas
5. Discussion of Existing Mitigation Measures
6. Discussion of Possible Mitigation Steps

Meeting Participants:

- Richard A. Boardman, Fire Chief
- Edward Lord, Highway Superintendant
- Joseph Kellogg, Town Administrator
- James M. McGarry, Police Chief

BRPC Staff

- Mackenzie Greer

General notes:

- Floods are an issue at Lime Kiln Road; they would like to add relief culverts. Some were added last year and they were a big help.
- There is a need for reverse 911 in the Town.
- Critical Facility list has been updated and is in hard copy form.

Areas of concern:

- Lime Kiln Road: The area needed relief culverts; one was added and it worked. During the last ice storm a section was washed out. This was a previous FEMA project.
- Rannapo Road: The riverbank is eating away at the road. Rip rap stabilization is needed. The Town is in process of funding this with Chapter 90 funds.
- Route 7: Flooding occurs; MassHighway is working on this.
- County Road: The banks are night on one side causing landslides down toward the road. The second County Road issue noted was a set of cones on the road for about 5-6 weeks prior to this meeting. No one at the meeting knew what the cones were doing there.
- Bartholomew's Cobble: Owned by the Trustees of Reservations; ther is danger of a landslide at Wheatogue(?) Road. TTOR were planning something, but nothing has materialized.

Mitigation work done to date:

- Relief culverts added last year – very helpful.

Sheffield Community Meeting #3 Summary

Date and Time: March 7, 2011, 7:00PM

Location: Sheffield Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Sheffield information included in plan
    d. Next Steps

Meeting Participants:

- Julie M. Hannum, Chair, Selectboard
- David Smith, Jr., Selectman
- Rene C. Wood, Selectman
- Joseph Kellogg, Town Administrator
- Rhonda LaBombard, Assistant Town Administrator
- James M. McGarry, Police Chief
- Richard Boardman, Fire Chief

BRPC Staff

- Mackenzie Greer

General notes:

- The Selectmen and emergency responders attending had reviewed the plan. They asked for information about the process.
- Specific feedback will be given by March 31st through Joe Kellogg.
- They will likely be adding a flooding location on Rannapo Road. JK to reply with more details.
- In general, the Selectmen were very positive about the plan and the process.

Stockbridge Community Meeting #1 Summary

Date and Time: April 26, 2010, 7:00PM

Location: Stockbridge Town Offices, Meeting Room

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Lenox

Meeting Participants:

Community Representatives

- George Shippey, Board of Selectmen
- Robert Flower, Board of Selectmen
- Deborah McMenamy, Board of Selectmen
- Jorja Marsden, Town Administrator
- Scott Muir, Emergency Management Director (EMD)
- Chris Marsden, Deputy EMDkl
- Jay Rhind, Resident, 13 Interlaken Road
- Alan Wilken, Resident, 3 Old Meeting House Road
- Tom Stokes, Resident, 51 Interlaken Road
- The meeting was also broadcast on local access television.

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

Based on a specific question from a Selectman, the difference between the Comprehensive Emergency Management Plan and the Hazard Mitigation plan were explained by BRPC staff and the Stockbridge EMD. Future presentations will explain the differences in during the main content.

Areas of concern for the Selectmen:

- Dams at Stockbridge Bowl and Housatonic River
- Problem culvert at East Main Street

Stockbridge Community Meeting #2 Summary

Date and Time: July 9, 2010, 9:00AM

Location: Stockbridge Town Offices

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Scott Muir, Emergency Management Director
- Richard Wilcox, Police Chief
- Jorja Marsden, Town Administrator
- Clint Schneyer, Highway Superintendent

BRPC Staff

- Mackenzie Greer

General notes:

- Scott Muir made a large number of corrections to the Critical Facilities spreadsheet. At this time, his handwritten changes are in a revised document.
- In late April or early May an application for flood mitigation at Trask Road (culvert enlargement) was sent to MEMA/FEMA.
- The participants in this meeting noted that the symbols used in the Town's Critical Facility map are too small to be legible.

Areas of concern:

- Dam concerns:
    - Beaver activity is an issue. Stockbridge has a contract with Beaver Solutions to monitor and mitigate hazardous dams in the area of Ice Glen Road, Clark Street and Goodrich Street. There are devices installed to prevent blockage of a road culvert and for monitoring activity to minimize flooding impacts.
    - Averic Dam requires maintenance currently. The Town is engaged in engineering studies and will submit a plan to the Office of Dam Safety soon.
    - Private Dams – Both the Mead Paper and Wood's Hole Dams file impact plans and appear to actively maintain and monitor their dams. However, the Littleville Power Company's Dam off of Route 183 does not appear to have an inundation plan or emergency management plan. The Town would like to encourage them to develop these items. The Town of Great Barrington would also be affected by a breach at this location.
    - There are communication gaps which are concerning. Much of the town does not have adequate cell phone or radio coverage. There was a recent issue at Tanglewood over

the 4th of July Holiday weekend because the cell phone towers couldn't handle the capacity. An issue with getting additional towers installed is the need for two providers for a tower. There is a potential site on the Marion Father's campus, but Verizon is not interested in installing there. For the Police, radios cannot reach 90% of the town.

- Tree trimming
    - National Grid engages in tree trimming on a regular basis.
    - There appears to be in increase in non-weather related tree fallings.
    - However, there is a need in the Town to conduct a full street tree survey. Such a document may help the Town work with the Conservation Commission to adopt a strategy for taking down problem trees, without having to work through the approval process each time. There was some type of tree survey completed by "Ronny" around 2000.[1]
- The work with cultural institutions in the area to help them plan for emergency events and natural disasters should be updated and continued.

Mitigation work done to date:

- Work was done on Stockbridge Bowl in 2005 to eliminate vegetation and built-up clay material.
- Following the ice storm of December 2008, shelter capacities were reevaluated.
- Stockbridge's CEMP is currently undergoing an update.

Stockbridge Community Meeting #2 Summary

Date and Time: March 16, 2011, 8:00AM

Location: Stockbridge Town Offices

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Stockbridge information included in plan
    d. Next Steps

Meeting Participants:

- Scott Muir, Emergency Management Director
- Robert Flower, Selectboard
- Deb McMenamy, Selectboard
- George Shippey, Selectboard
- Chris Marsden, Deputy Emergency Management Director
- Jorja-Ann Marsden, Town Administrator

BRPC Staff

- Mark Maloy

Items to be updated in report:

- The Butler Bridge is not a concern and needs to be removed from the flood prone areas.
- Lincoln Lane on Route 102 has a culvert that is too small and washes out the road by 71-75 East Main Street.
- 98 East Main Street receives water off of the side of a mountain. The culvert that handles this water is clogged and undersized, leading to a gully across the road.
- The Stockbridge Bowl Dam has an EAP and can be changed to Complete on the action table.
- Lakin Pond dam is on Yale Hill and needs to be moved.

Tyringham Community Meeting #1 Summary

Date and Time: June 22, 2010 at 7:00 PM

Location: Tyringham Town Hall

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. Review 2005 Natural Hazard Mitigation Plan
4. Public input about changes to 2005 Plan, what has been completed, new problems

Meeting Participants:

Community Representatives

- Alan B. Wilcot, Selectboard
- Peter L. Curtin, Selectboard
- Chris Johnson, Selectboard
- Leslie B. Beebe, Highway Department
- Molly Curtin-Schaefer, Executive Assistant

BRPC Staff

- Brian Domina

Specific comments from meeting:

Selectboard and public comment indicated the following concerns:

- Shaker Pond dam has been fully repaired in the last five years
- South House dam has been fully repaired in the last five years
- Beavers continue to be a problem – existing areas identified in plan still a concern – additional areas, Barnes Road.
- An earthquake fault line exists in the town
- Steadman Pond dam (Monterey) is a concern due to potential flooding
- Hayes Pond (Otis) is a concern due to potential flooding

Other Concerns

The Highway Department garage has flooded in the past five years due to its location in a flood plain. Most government buildings are located in flood plains in the town. Unusually high number of plane crashes (5 crashes in the last ten years).

Tyringham Community Meeting #2 Summary

Date and Time: August 10, 2010 at 11 AM

Location: Tyringham Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Molly Curtin-Schaefer, Executive Assistant
- James J. Curtin, Fire Chief – EMD
- Patrick J. Holian, Police Officer
- Leslie Beebe, Road Superintendent

BRPC Staff

- Brian Domina

Specific comments from meeting:

Note: Tyringham has an expiring Natural Hazard Mitigation Plan so much of the discussion revolved around the existing plan.

- The police department is not listed as a critical facility.
- The largest concern for those in attendance was the proximity of Hop Brook to all of the critical facilities in town. The Town Hall is located in close proximity to Hop Brook – the highway department is in the basement of the Town Hall.
- A new bridge has been constructed by the Commonwealth on Breakneck Road
- Dead wood in the forests is still a concern
- Steadman Pond Dam has been taken over by the Commonwealth
- Beavers continue to be a problem in the town as previously marked on the Map

No other changes to the plan were suggested by those in attendance. The attendees were given an additional two-three weeks to review the current plan and submit comments to BRPC.

<u>Additional Comments Received</u>

Action Table – computer generated flood plain maps do not work

Goose Pond Dam- JJC changed hazard to medium after G.P fixed dam in 2002
Flooding – the most recent severe flooding occurred in October 7 and 8 of 2005 (delete 1955)

Action table (objective #2) develop formal and legally binding MAA(s) – ALREADY COMPLETE

Action table (objective # 2) update of part 4 of the CEMP is in progress

Existing Mitigation Measures

- Drainage Maintenance
- Floodplain Protection Bylaw
- Active management of beavers

Possible Mitigation Steps

- Retrofit the Town Hall and Highway Department to protect from flooding
- No other changes suggested for possible mitigation steps to 2005 plan

Tyringham Community Meeting #3 Summary

Date and Time: April 12, 2011 @ 7:30 PM

Location: Tyringham Town Hall

Discussion Topics:

Summary of Plan Development
Review Plan
    Risk Assement
    Existing Protections
    Action Steps
Comments

Meeting Participants:

- Alan B. Wilcot, Selectboard
- Peter L. Curtin, Selectboard
- Chris Johnson, Selectboard
- Leslie B. Beebe, Highway Department
- Molly Curtin-Schaefer, Executive Assistant

BRPC Staff

- Brian Domina

Comments

Edits to Critical Facilities

Please switch the EOC and Alternate EOC (the EOC is the Town Hall) and the alternate is the Fire Station.

Edits to Flood Prone Area

Please add the following to waterbodies in Town – South House Pond, Sodom Pond, and a number of approximately 1 acre plus beaver ponds.

Hale Pond according to the Board is really just a marshy area and doesn't need to be included.

Please change to reflect that Goose Pond Road is a partial dirt road

Please add a sentence to reflect the town's concern over the large number of beaver dams in the surrounding hillsides that when breached cause flash flooding conditions through the center of town.

Edits to Flooding Vulnerability

The text in the paragraph and table 84 do not match

Edits to Dam Table

Please add South House Pond Dam

Edits to Map

Please add highlighted areas that are impacted by beavers (please see scanned copy of map)

Washington Community Meeting #1 Summary

Date and Time: June 7, 2010 at 7:00 PM

Location: Washington Town Hall

Discussion Topics:

1. Explanation of our natural hazard mitigation planning efforts
2. What is hazard mitigation
3. What natural hazards affect the Berkshires
4. Contents of natural hazard mitigation plan
5. Public input about natural hazards in Washington and locations, if known

Meeting Participants:

Community Representatives

- Stephen Deloye, Selectboard
- RoseBorgnis , Selectboard
- Shaun Lennon, Selectboard
- David Fish, Highway Superintendent
- Keith Sharp, Resident
- Lyle Larson, Resident
- Mike Burke, Resident
- Mark Roos, Resident
- Ken Wall, Resident
- Robert Jarvie, Resident
- Victor Braun, Police Chief
- Paul Mikaniewicz, EMD
- Craig Willis, Resident (Former Highway Superintendent)

BRPC Staff

- Brian Domina

Specific comments from meeting:

Selectboard and public comment indicated the following concerns:

- Dam off of Frost Road is unsafe(would like study done on dam)
- Bridge on Frost Road (box culvert with deck) is not large enough. In the past brook has flooded and traveled down Frost Road onto Route 8
- Beavers (Watson Road – West Branch Road)
- Flooding – lower valley road
- Severe erosion of roadways and shoulders on Upper Sargent Road, Beach Road, Lovers Lane, Simmons Road

Other Concerns

Washington has only one real floodplain – the majority of the town is hilly and mountainous and would be affected by erosion, not necessarily flooding of water bodies.

Washington Community Meeting #2 Summary

Date and Time: August 27, 2010 at 6:00 PM

Location: Washington Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Paul Mikaniewicz, Emergency Management Director, Fire Chief
- Victor J. Breen, Police Chief
- David Fish, Highway Superintendent

BRPC Staff

- Brian Domina

Specific comments from meeting:

The group suggested several changes to the Berkshire Potential Vulnerability to Future Natural Hazards.

- Washington has very few floods because much of the town is higher in elevation than surrounding areas – suggested move frequency to medium.
- The area of impact for floods in Washington was suggested to be isolated because only a small portion of the town is subject to any sort of flooding.

The group had a discussion over the critical facilities list but no changes are required.

The majority of time spent at the meeting was centered upon the Town Map. The group identified areas of concern with respect to natural hazards, mostly related to flooding and inability of many of the road systems to deal with heavy rain.

- Frost Road is an area of high concern. The steepness and topography of surrounding land on Frost Road is such that when the small bridge floods the roadbed is turned into a river which floods across Route 8 and makes Route 8 impassable during heavy rain events. Town wants a hydro study to determine how best to handle the flow of water.

- Cross place Road is the second area of high concern. Cross place Road crosses depot brook and another small body of water – there are two bridges and a small culvert (caved in). The existing bridges and small culvert cannot handle water from heavy rains – This isolates 8 – 10 permanent homes from the rest of the town and emergency service vehicles. There is no other access to these homes.

- Upper Sargent Road (dirt/gravel) constantly washes out requiring regular maintenance

- Schulze Road occasionally washes out

- The town is heavily forested and relies on neighboring town Becket for fire services. A forest fire recently burned several acres within the past two years.

- The town has beaver issues, but actively traps and manages dams when necessary

Existing Mitigation Measures

- Drainage Ditch Maintenance
- Active trapping of beavers

Mitigation Steps

- Construct larger bridges and replace collapsed culver on Cross Place Road
- Conduct hydro study for Depot Brook off of Frost Road to address chronic flooding problem
- Adopt floodplain zoning bylaw
- Adopt stormwater control bylaw
- (subdivision regulations?)

Washington Community Meeting #3 Summary

Date and Time: March 14, 2011 @ 8:00 PM

Location: Washington Town Hall

Discussion Topics:

Summary of Plan Development
Review Plan
    Risk Assement
    Existing Protections
    Action Steps
Comments

Meeting Participants:

- Paul Mikaniewicz, Emergency Management Director
- David Fish, Highway Superintendent
- Jim Huebner, Selectboard
- Rose Borgnis, Selectboard
- Shaun P. Lennon, Selectboard
- Victor Breen, Police Chief

BRPC Staff

- Brian Domina

Comments

Please edit flood prone areas:

Cross Place Road is also a high concern….. The headwalls are caving into the brook and the bridges are too small……

Please edit dams to include:

Add "Middle Brook Dam"

Make certain that Eden Glen Dam is included in the Plan

Please edit Existing Protection Matrix

"Beaver Management" replace the word population with activity …. (so it reads continue to manage beaver activity)

Please edit mitigation action plans:

(# 1 Structural Project should read) – Conduct hydrological study of Depot Brook off of Frost Road to address chronic flooding problem and implement findings, including the replacement of the bridge.

(# 2 Structural Project should read – Construct larger bridges and replace collapsing headwalls on Cross Place Road.

Delete # 3 Adoption of Flood Plain Bylaw – WSH has adopted a flood plain bylaw.

Williamstown Community Meeting #1 Summary

Date and Time: May 10, 2010, 7:00PM

Location: Williamstown Town Hall

Discussion Topics:

1. What Hazard Mitigation is and why we plan for it
2. Past planning efforts
3. Current plan process, products & expectations from communities
4. Known areas of concern for Williamstown

Meeting Participants:

Community Representatives

- Peter Fohlin, Town Manager
- Kathy Poirot, Administrative Assistant
- Tom Costley, Chairman, Selectman
- Thomas Sheldon, Selectman
- David Rempell, Selectman
- Jane Allen, Selectman
- Ron Turbin, Selectman
- Jamie Art, Resident
- Stan Parese, Resident
- Jeanne Marklin, Resident
- Joe Finnegan, Resident
- Josephine Warshauer, Williams Student
- Stefan Ward-Whelen, Williams Student
- Jodi Joseph, Resident
- James Hodgkins, Resident
- The meeting was also broadcast live on local access television.

BRPC Staff

- *Mackenzie Greer*

Specific comments from meeting:

The Spruces remain an area of concern for the Town. A past proposal for a hazard mitigation grant for mitigating flood conditions on this property was not funded because the activity would only bring limited flood relief.

Williamstown Community Meeting #2 Summary

Date and Time: June 23, 2010

Location: Williamstown Town Hall

Discussion Topics:

1. Review Listing of Identified Hazards and Determine Risk
2. Review List of Critical Facilities
3. Review Town Map to Identify Natural Hazard Problem Areas
4. Discussion of Existing Mitigation Measures
5. Discussion of Possible Mitigation Steps

Meeting Participants:

- Jeff Kennedy, Assistant Emergency Management Director/Health Agent
- Andrew Groff, Town Planner

BRPC Staff

- Mackenzie Greer

General notes:

- Most of the notes from this meeting are reflected in an update to the Town's Action Table.
- Williamstown's Vulnerability Table should remain the same as it was in 2005.
- The Town has no wetlands bylaw – an effort to pass one was defeated by town meeting vote two years ago.
- The Town does not have an Open Space Plan, but there is an Open Space section in the Town's Masterplan. The next Masterplan update is in 2012.
- The Town zoning deals extensively with groundwater protection.
- The mobile home park (The Spruces), which experiences the worst flooding due to its location in and near the floodplain, is regulated. There are areas where new homes are not allowed and others where they are strictly regulated.
- There is separate, extensive zoning for wireless tower facilities.
- Zoning has extensive erosion controls.
- The 100-year flood maps appear accurate – they experienced that magnitude storm in October 2005.
- Newer buildings have fire suppression systems.
- A new communications tower was added at the DPW building.

Areas of concern:

- A wide-spread power outage is the biggest concern. All critical facilities have generators.
- A new tower behind the Mt. Greylock school would help cover the gap in wireless communications service.

Williamstown Community Meeting #3 Summary

Date and Time: January 24, 2011, 7:00PM

Location: Williamstown Town Hall

Discussion Topics:

1. Overview and process
2. Findings:
    a. Regional hazards and common problems
    b. Regional goals and actions
    c. Williamstown information included in plan
    d. Next Steps

Meeting Participants:

- Thomas Sheldon, Chairman, Board of Selectmen
- Jane Allen, Selectman
- David Rempell, Selectman
- Alex Kabrall, Resident
- Two journalists

BRPC Staff

- Mackenzie Greer

General notes:

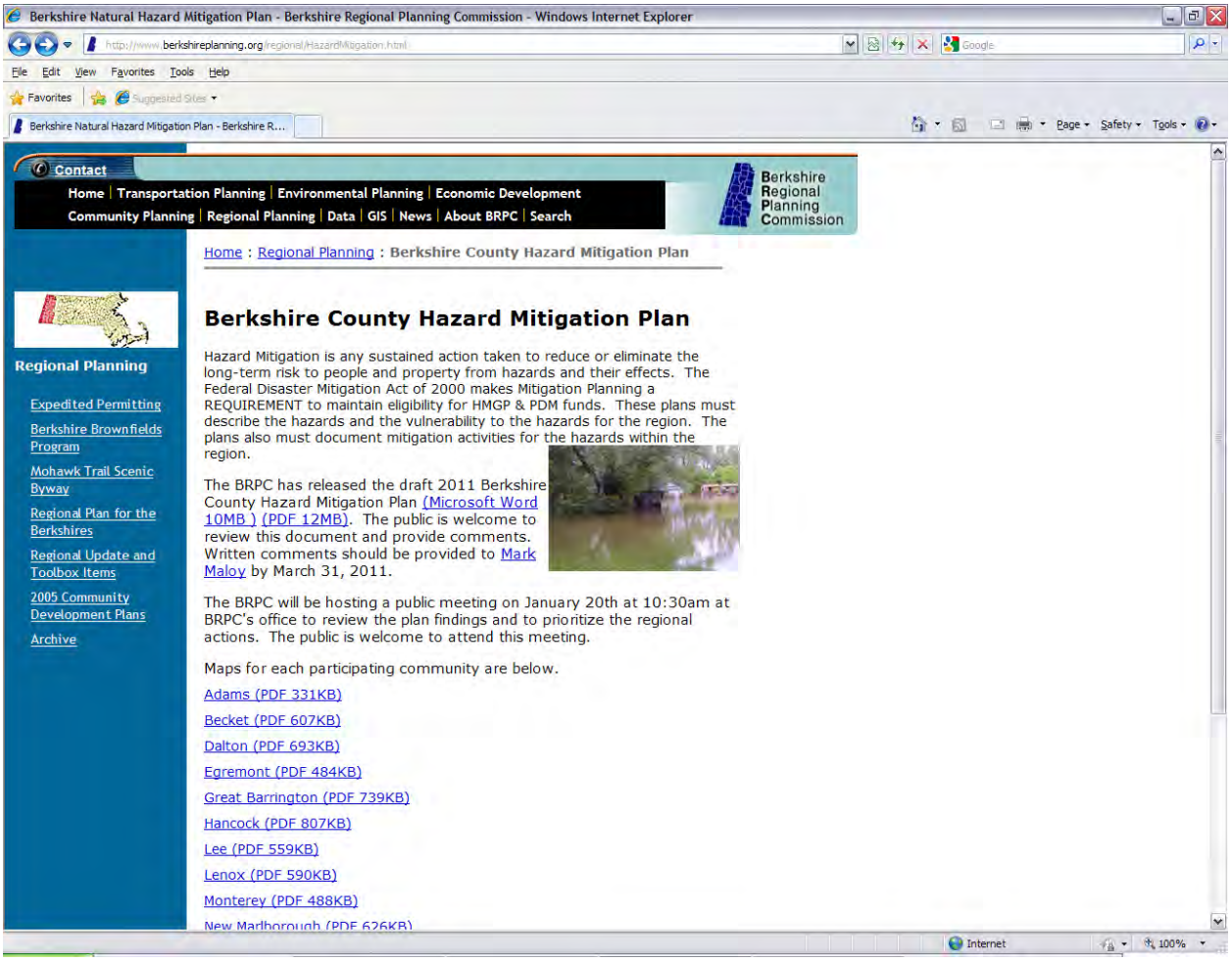
- The Selectmen expressed appreciation at the level of detail and information included in the plan.
- They asked about why some towns aren't participating.
- There was a question about what bridge is referenced in the Structurally Deficient Bridges over Waterways (pg. 130). The bridge on Green River Road has been fixed. A bridge just off of Green River Road, on Hopper Road, is likely structurally deficient but has not been replaced. Contact Tim Kaiser (458-5159) for more information.
- Peter Fohlin (Town Manager) would like to know what locations the dry hydrants are needed referenced in the Town Action Plan on page 214. This was information from the 2005 plan.
- Mackenzie has added some small corrections in her Williamstown section hardcopies.
- The deadline of additional comments by March 31, 2011 was repeated numerous times.

Appendix 3. Organizations input sought from

All comments received by these entities were reviewed, evaluated and incorporated into the plan where appropriate.

Berkshire Chamber of Commerce
Berkshire Community College
Berkshire Environmental Action Team
Berkshire Medical Center
Berkshire Natural Resource Council
Berkshire Regional Transit Authority
Berkshire United Way
Berkshire Visitors Bureau
Central Berkshire Regional Emergency Planning Committee
Hoosic River Watershed Association
Housatonic Valley Association
Fairview Hospital
Massachusetts College of Liberal Arts
Massachusetts Department of Transportation – Region 1
Massachusetts Emergency Management Agency
Massachusetts Hazard Mitigation Planning Team
Massachusetts Department of Conservation and Recreation
Western Region and Office of Dam Safety
Massachusetts Fish & Wildlife Service – Western Region
Northeast Utilities
National Weather Service
North Adams Regional Hospital
Northern Berkshire Regional Emergency Planning Committee
Northern Berkshire United Way
Southern Berkshire Regional Emergency Planning Committee
The Trustees of Reservations
Western Massachusetts Electric Company
Williams College

Appendix 4. Draft Plan Review Outreach



Public Notice

The Berkshire Regional Planning Commission has released the draft Berkshire County Hazard Mitigation Plan. The draft of the plan can be found on our website www.berkshireplanning.org. The public is welcome to submit written comments on the plan until March 31, 2011. The BRPC will be hosting a meeting to discuss the plan on January 20, 2011 at 10:30am at BRPC's office at 1 Fenn Street, Suite 201, Pittsfield. The public is invited to attend.

BRPC Common Ground Newsletter – November/December 2009

BRPC has recently been awarded a grant from the Federal Emergency Management Agency(FEMA) and the Massachusetts Emergency Management Agency(MEMA) to update the 2005 Berkshire Regional Hazard Mitigation Plan. Over the coming two years, BRPC will be working with 19 communities to update the plan and make the communities eligible for Hazard Mitigation Grants. The communities that are participating are Adams, Becket, Dalton, Egremont, Great Barrington, Hancock, Lee, Lenox, Monterey, New Marlborough, Otis, Pittsfield, Richmond, Sandisfield, Sheffield, Stockbridge, Tyringham, Washington and Williamstown. The Multi-Jurisdictional Hazard Mitigation Plan describes the natural hazards that affect each of our communities and our region and lists mitigation activities that can be done to eliminate or minimize the impact of the hazards.

For more information, contact Mark Maloy.

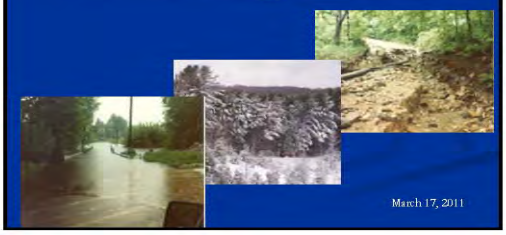
BRPC Common Ground Newsletter – January / February 2011

The Berkshire Regional Planning Commission has released the draft Berkshire County Hazard Mitigation Plan. The draft of the plan can be found on our website www.berkshireplanning.org. The public is welcome to submit written comments on the plan until March 31, 2011.

Fore more information, contact Mark Maloy

Presentation to BRPC – March 17, 2001

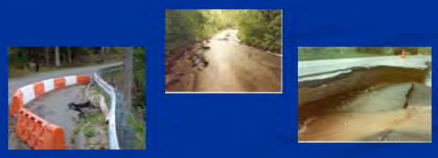
Berkshire County Hazard Mitigation Plan



March 17, 2011

What is Hazard Mitigation?

"A sustained action taken to reduce or eliminate the long-term risk to people and property from hazards and their effects."



What is a Hazard Mitigation Plan?

- A Mitigation Plan…
  - Describes the natural hazards in a community
  - Assesses the vulnerability of a community to the identified hazards
  - Describes activities that can be done to mitigate the hazards before they occur

Federal Disaster Mitigation Act of 2000

Mitigation Plan is a REQUIREMENT to maintain eligibility for HMGP & PDM funds.

Benefits of Having a Hazard Mitigation Plan

- Mitigation Activities in Berkshire County

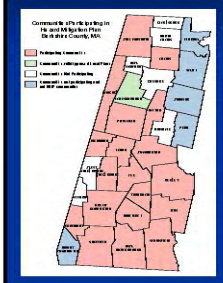
Becket – Brooker Hill Road Bank Stabilization

Tyringham – Bank Stabilization

What Currently Exists

- Berkshire Regional Hazard Mitigation Plan (2005)
- Community Annexes for 7 communities
  - Becket, Hinsdale, Lanesborough, Lenox, Stockbridge, Tyringham and Williamstown
  - Each Annex is a complete plan, yet is based on the regional plan.
  - Annexes expire when the Regional Plan expires (5 years - 2010)

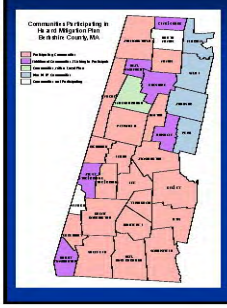
Updated Plan



- Berkshire County Hazard Mitigation Plan
  - A Regional Plan with local information imbedded within the plan – One plan covers all of the 19 participating municipalities.
    - This reduces the duplication that currently exists between the plans and made updating the new plan much easier and cheaper.

1

Additional Communities



- 6 Additional Communities have expressed interest
- Applied for additional funding in Fall 2010 – awaiting decision

Timeline

- Regional Meeting – January 2010
- Local Public Meetings – Spring-Summer 2010
- Local Working Meetings with Emergency Responders, Planners, Town Managers, etc – Summer – Fall 2010
- Report updated and released for Public Comment – January 3, 2011
- Regional Meeting – January 2011
- Local Public Meetings – January-March 2011

Natural Hazard Identification

- Hazard Risks
  - High: Flooding, Winter Storm, Severe Storm
    - Includes ice storm, blizzard, thunderstorm, high wind, hail
  - Medium: Dam Failure, Tornado, Hurricane & Tropical Storms
  - Medium – Low: Extreme Temperature, Drought, Wildfire
  - Low: Landslide, Earthquake, Ice Jam

Natural Hazard Identification

- Recently Declared Disasters
  - Severe Winter Storm & Snowstorm – January 2011
  - Severe Winter Storm & Flooding – December 2008
  - Severe Winter Storm – December 2008
  - Severe Storms & Inland/Coastal Flooding – April 2007
  - Severe Storms and Flooding – May 2006
  - Severe Storms and Flooding – October 2005
  - Snow – January 2005

Where can we reasonably focus our Mitigation Efforts?

- Flooding is our prime target
  - Several hazards results in flooding (dam failure, snow, hurricanes, thunderstorms, ice jams)
  - Predictable: we know where the problems can occur
  - Relative ease of implementing mitigation measures
  - Focus of grant programs makes them affordable

Assessing Vulnerability

- 6.0% of houses (~3,000) are in floodplain
- 546 Commercial and Industrial buildings are located in floodplain
  - 15.5% of Commercial and 22.7% of Industrial
- Roads in the floodplain
  - 4.87% (136.59 miles) are in the floodplain

2

Buildings within the Floodplain

Municipality	No. buildings in Floodplain	Overall Percent building stock	Loss Estimate	Comments
Pittsfield	1,249	8.1%	$517 million	16.9% Comm bldg stock 25.1% Ind bldg stock
Williamstown	417	17.8%	$309 million	33.1% Comm bldg stock 20% Ind bldg stock
Lee	233	9.6%	$213 million	34.3% Comm bldg stock 27.9% Ind bldg stock
Monterey	93	11.9%	$98 million	100% Comm bldg stock
Great Barrington	89	3.1%	$78 million	24.4% Comm bldg stock
Stockbridge	66	4.7%	$74 million	28.3% Comm bldg stock 55.6% Ind bldg stock

Regional Goal

Reduce the loss of life, property, infrastructure, and environmental and cultural resources from natural disasters.

Supporting Goals

- *Investigate, design and implement structural projects that will reduce and minimize the risk of flooding.*
- *Investigate and implement projects that will reduce and minimize the risk of non-flooding hazards.*
- *Improve existing local policies, plans, regulations, and practices to reduce or diminate the impacts of natural hazards.*
- *Increase the capacity of local Emergency Managers, DPWs, and Fire, Police, Conservation Commissions and Health Departments to plan for and mitigate natural hazards.*
- *Increase public awareness of natural hazard risks and mitigation activities available to them.*
- *Improve the quality of the data for the region as it pertains to natural hazards.*

Mitigation Measures

- Prevention
- Property Protection
- Public Education and Awareness
- Natural Resource Protection
- Emergency Services Protection
- Structural Projects

What are the common problems

- Undersized culverts / bridges
- Lack of maintenance on storm water system
- Dirt road maintenance / stormwater management
- Beavers
- Debris in streams
- Maintenance of utility lines around trees
- Debris from ice storm

Next Steps

- Receive Comments on Plan through March 31, 2011
- Plan updated based on comments (April 1 – June 30, 2011)
- Plan submitted to MEMA & FEMA for formal review (July 1 – December 31, 2011)
- Plan updated based on comments from MEMA/FEMA (January 2012)
- Plan adopted by each community (February – June 2012)

Please review the Berkshire County Hazard Mitigation Plan

www.berkshireplanning.org/regional/HazardMitigation.html

Appendix 5. Community Maps

Map– Adams

Map – Becket

Map – Dalton

Map – Egremont

Map – Great Barrington

Map – Hancock

Certificate of Adoption – Lee

Map – Lenox

Map – Monterey

Map – New Marlborough

Map – Otis

Map – Pittsfield

Map – Richmond

Map – Sandisfield

Map – Sheffield

Map – Stockbridge

Map – Tyringham

Map – Washington

Map – Williamstown