

APPENDIX C. ADDITIONAL DOCUMENTATION

This appendix provides additional documentation of the plan development process as described in Section 2. This includes copies of meeting agendas, sign-in sheets, summary notes, and presentation slides for all Hazard Mitigation Planning Committee and Public Meetings. It also includes copies of meeting advertisements, notices, media articles, and other example documentation to demonstrate the Town of Fairhaven's efforts to promote public and stakeholder engagement in the planning process. Lastly, this section includes a copy of a completed FEMA Regulation Checklist to confirm that the plan meets all requirements of Title 44 Code of Regulations (CFR) 201.6.

Appendix C consists of the following three subsections:

C.1. Hazard Mitigation Planning Committee Meetings (beginning on page C-2)

- Meeting Agendas
- Sign-in Sheets
- Summary Notes
- Presentation Slides

C.2. Public and Stakeholder Engagement Activities (beginning on page C-56)

- Public Engagement Strategy
- Screenshots of Project Websites
- Project Fact Sheet
- Press Releases
- Media Articles
- Public Meeting Notices/Advertisements
- Public Meeting Sign-in Sheets
- Public Meeting Presentation Slides
- Postcard Notifications (Public Opinion Survey)
- Public Opinion Survey
- Public Opinion Survey Results

C.3. FEMA Local Mitigation Plan Review Tool (beginning on page C-140)

C.1. HAZARD MITIGATION PLANNING COMMITTEE MEETINGS

- Meeting Agendas
- Sign-in Sheets
- Summary Notes
- Presentation Slides



Town of Fairhaven

Department of Planning & Economic Development

Town Hall • 40 Center Street • Fairhaven, MA 02719
Telephone (508) 979-4082, Ext. 9 • FAX (508)-979-4087

MEETING NOTICE

Hazard Mitigation Plan

Local Planning Team

PLACE OF MEETING: **Town Hall**

DATE AND TIME: **Thursday, January 12, 2017 at 1:30PM**

MEETING TYPE: **Meeting**

William D. Roth
Director

December 22, 2016
Date

AGENDA

Thursday, January 12, 2017 at 1:30 PM
Banquet Room

1:30–3:00 P.M. (Local Planning Team (LPT))

1. Introductions
2. Overview of Plan Development Process
 - a. Purpose
 - b. Scope of work
 - c. Schedule
3. Review LPT Member Roles and Responsibilities
4. Review Draft Public Engagement Strategy
5. Identify Key Data and Resources
6. Open Discussion
 - a. Potential opportunities/synergies
 - b. Potential conflicts/impediments
 - c. Other local issues, concerns, or ideas
7. Next Steps



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MEETING NOTICE

Hazard Mitigation Plan

Stakeholder Group

PLACE OF MEETING: **Town Hall**

DATE AND TIME: **Thursday, January 12, 2017 at 3PM**

MEETING TYPE: **Meeting**

William D. Roth
Director

December 22, 2016
Date

AGENDA

Thursday, January 12, 2017 at 3PM
Banquet Room

3:00–4:00 P.M. (Stakeholder Group with LPT)

1. Welcome and Introductions
2. Project Overview
3. Initial Hazard Identification and Needs Assessment
4. Other Local Issues, Concerns, or Ideas
5. Next Steps

Town of Fairhaven - Local Hazard Mitigation Plan
Local Planning Team, Meeting #1
January 12, 2017

Name	Title / Affiliation	Phone	E-mail
Bill Roth	Planning Dept		
Roger Gantreau	EMA Dep Dir	508 989 2344	
Maree Jodoin	EMA DIRECTOR		
Tim Francis	FAIRHAVEN FIRE		
WAYNE FOSTIN	FAIRHAVEN BURNING		
Vinny Fortado	Fairhaven BFW		
Janice Caplan	Subcontractor		
Dan Fortin	PC	617/777-2001	
Wayne Hayward	Planning	508.525.074	still send it@comcast.net

Town of Fairhaven - Local Hazard Mitigation Plan

Local Planning Team, Meeting #1

January 12, 2017

Name	Title / Affiliation	Phone	E-mail
Warren Rensehousen	Recreation Director	508-993-9269	wrensehusen@fairhaven-ma.org
Kristanne Sheedy	Director / Housing Authority	508-993-1144	flornhousing@comcast.net
Susan B. Sullivan	CITIZEN	508 993 0998	sunfishdesigns@comcast.net
Geoff Sullivan	Citizen	"	eightwt@gmail.com
Barbara Hicks	Citizen	508 993-6317	backsen@comcast.net
Terrence B. Meredith	Citizen	508-994-8751	tho-merediths@comcast.net
Kevin McEnabkin	CITIZEN	999-1600	www.oblithoushship79.d.ca-
Amelia Rees	Town ADM		

**Town of Fairhaven, Local Hazard Mitigation Plan
Local Planning Team (LPT) Meeting #1**

Date: January 12, 2017

Time: Steering Committee at 1:30 PM EST; Stakeholder Committee at 3:00 PM EST

Meeting Summary

Assembled the LPT for an introduction and overview of the plan development process, including descriptions of individual roles and responsibilities of committee members. Facilitated initial hazard identification, needs assessments, and other data collection efforts to capture early input and ideas on all aspects of the plan development process. Most discussion surrounded local issues, concerns, and ideas as it relates to the greatest risk and resilience challenges facing the town. The meeting also provided the opportunity for the Steering Committee to solicit input on the draft Public Engagement Strategy designed to generate public interest, solicit citizen input, and engage additional partners in the plan development process.

Meeting Attendees

Steering Committee:

- William Roth, Director of Planning and Economic Development
- Timothy Francis, Fire Chief
- Wayne Fostin, Building Commissioner / Conservation Agent
- Vincent Furtado, BPW Superintendent
- Marc Jodoin, Director, Emergency Management Agency
- Roger Gautreau, Deputy Director, Emergency Management Agency
- Darrin Punchard, Punchard Consulting LLC (*consultant*)
- Jamie Caplan, Jamie Caplan Consulting LLC (*consultant*)

Stakeholder Committee:

- Susan Sullivan, Citizen / Floodplain Resident
- Terrence Meredith, West Island Representative
- Kris Sheedy, Fairhaven Housing Authority
- Warren Rensehausen, Recreation Center
- Wayne Hayward, Planning Board Chair
- Barbara Acksen, Fairhaven Improvement Association
- Kevin McLaughlin, Fairhaven Shipyard Company
- Mark Rees, Town Administrator (*partial attendance*)

Meeting Notes: Steering Committee

General Points

- Recommend holding a future public meeting on West Island
- Sea Level Rise Report – includes all pump stations (prepared by SeaPlan for Buzzards Bay National Estuary Program)
- West Island Weather Station (www.westislandweather.com) – Run by M.L. Baron, excellent resource for pictures, videos, and local info
- Stantec is working on sewer/WWTP report for DPW

Critical Facilities

- Hastings Middle School is #1 shelter
- Wood Elementary School is back-up shelter
- No more trailers. MEMA and regional HS council now considering concept of regional caches for people to go to for what they need versus pre-staging shelters with everything (spread out over 96 community region)
- Only dam washed away (Mill Rd); though series of very small structures near sewer dept. facility
- WWTP – not located in floodplain; FST/Stantec now working on plans for upgrades, energy efficiency improvements, etc.

Capabilities

- EMA has 60 cots
- Fire Chief works on Sheltering/Animal Shelter, and serves as vice-chair for S.E. MA Regional Homeland Security Council (representing 96 communities)
- Fire Department opens and closes Slew Way at Egypt Lane
- Fire Truck – 32 years old
- Rt 6 not a manned fire station, has some reserve equipment
- ISO Fire Rating = 3. BCEGS? (TBD)
- Hurricane Barrier
 - HURRICANE BARRIER: Fort Street and Old Fort Road, daylight hours. Built by the U.S. Army Corps of Engineers in the mid-1960s to protect the inner harbor from storm surges, this granite barrier is the largest man-made stone structure on the east coast. The public may walk on the barrier to the massive gates for views of the inner and outer harbor and for a close-up view of boat traffic.

High Hazard Areas

- Wildfires not a major concern, aside from usual brushfires which are usually suppressed quickly
 - Cat Tails and invasive phragmites catch fire near Town Beach
 - Also wide swath of wildfire risk from New Boston Rd to Mill Rd, north of interstate (densely forested area with no fire roads)
 - Bayview lost houses in early 1980's when cat tails caught fire
 - Southern end of Farmfield St. also considered risk area
 - Fires near old Town dump on West Island
 - Three homes burned during winter storm/blizzard of 2015/2016?
- Nash Riverway floods during every 100-year storm
- Flood concern = dyke/culvert near G Bourne Knowles (267 Huttleston Avenue, Route 6)
- Egypt Lane – seaward of hurricane barrier
- Causeway to West Island – floods during king tides, major storms, etc. restricting access to/from. Fire risk = No fire trucks will ever be pre-positioned on island before/during storm.
- Lots of hazardous materials in shipyard / industrial waterfront area

Meeting Notes: Stakeholder Committee

General Points

- CRS very important to a small percentage of people
- Learn about the Hurricane Barrier, maintained by Army Corps of Engineers
- Town doesn't have an adequate animal sheltering plan – people won't leave home without animals and no shelters equipped (though required by State?)

- Hurricane barrier not closing is biggest concern for Shipyard (controlled by USACE). Only slough ways operated/maintained by Town
- Citizen concerns:
 - Coordination on post-storm power/phone line repairs/restoration has gotten better over years.
 - Stormwater runoff, old drain pipes
 - Gas leaks

Housing Department Information

- Has its own EM plan
- 278 1 bedroom apartments
- 6 different locations with family units
- Power loss is big issue. Have 1 portable generator with transfer switches at 2 buildings – only provides power to common areas
- Oxford Terrace is primarily for elderly
- Common Areas could be a rest area for 1st responders, a shelter, a warming station – need a generator at Oxford Terrace to run more than just kitchen and common areas.
- McGann Terrace (for seniors) – 1 common building can accept generator hookup, but individual units won't get power
- Do NOT have a transportation plan

Education and Future Public Outreach

- Recommend educating people about electrical safety, also solar installations still need some electricity
- Would like a robust web page

Tree Warden

- Can't handle a disaster on his own
- Trees pose widespread threats across town for property damage, ingress/egress, power outages, etc.

Communication

- Many elderly still listen to radios – maybe capture that info in survey

Insurance

- Is this for named storms only? Darrin has more info and will research.

West Island Concerns

- These folks have a higher level of preparedness
- Long history of not leaving during a storm
- Causeway – impassible following a storm, residents are concerned about re-entry
- Water gets shut off which leaves residents isolated

Recreation Center

- In the early stages of it becoming an adequate shelter, have showers, kitchen and room for pets
- Needs a generator

To Do List

Additions to LPT List (or at least add to targeted mailing list for public meetings, survey, etc.)

- News columnist to the stakeholder list

- Nye Lubricants, other business owners?
- Make sure all Improvement Associations are included, Fairhaven, West Island, East Fairhaven, North Fairhaven
- Invite President of Fairhaven Business Association
- Local insurance agency reps
- Church Representatives
- Tree Warden
- Board of Health
- Police Department
- Harbormaster
- Jeff Osuch – previous Town Manager and DPW Director
- Representative from Town’s Sustainability Committee (Green Fairhaven)

Get Additional Information

- Housing Authority has an Emergency Response Plan and detailed data on all special needs for vulnerable populations.
- GIS data – most current/accurate data can be made available from CAI and/or MassGIS; and DPW (water/sewer layers)
- [West Island Weather Station](#) – ML Barron, find on Facebook he has pictures
- Hurricane All Hazards Plan (Ann has a copy, updated in June)
- Ann also has list of all propane gas tanks in town
- EOP plan filed with MEMA
- CAV from FEMA in early 90’s?

Possible Mitigation Actions

- Oxford Terrace generator – elderly housing, with large common area suitable to serving the Town and 1st Responders
- New First Responder Facility (fire and police)
- New EMA Clubhouse
- Rehab Rogers School (which is “rotting”)
- \$7M needed for HS rehab/preservation
- Pet-friendly shelters
- Quick connects and generators for Rec Center and Senior Center, and Housing Authority properties (see above). Address critical social vulnerabilities.
- Education and awareness (e.g. website/flyer, PSAs, etc.) on electrical/generator safety (homes and businesses)
- Outreach on seismic design/supply standards for large commercial facilities
- Outreach to farming community on climate change adaptation (beekeepers, etc.)
- Dealing with West Island residents who won’t evacuate? Many accept risks that they don’t fully understand, others feel they have no place to go (especially w/ pets). Delayed re-entry to island also another major disincentive to leave.
 - 250+ people stayed on island during Hurricane Carol in 1954.
 - Causeway was not passable after Hurricane Bob in 1991

Future Meetings

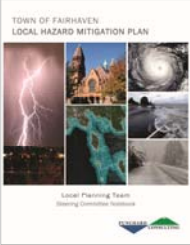

- Schedule a 1x1 meeting with DPW, Vinny – responsible for highway, water, sewer
- Schedule public meeting on West Island
- Future LPT meetings:

- Late afternoons work best.
 - Keep Stakeholder and Steering Committee meetings separate? Most say yes, but let's revisit with Bill.
 - Make sure they are well advertised as open to the public, and televised!
- Future public meetings:
 - Need to use more creative/persuasive ads and notices (tell people why this process affects them)
- Jeff Osuch – former Town Administrator with decades of history/experience in Fairhaven. Key resource for local anecdotal data on hazard events, etc.
- Next LPT Meeting, March 14th @ 1:30pm

Town of Fairhaven
Local Hazard Mitigation Plan

January 12, 2017

Local Planning Team
Meeting #1
Steering Committee



Agenda

1. Introductions

2. Overview of Plan Development Process


3. Review LPT Member Roles and Responsibilities

4. Review Draft Public Engagement Strategy

5. Identify Key Data and Resources

6. Open Discussion

7. Next Steps



2

Our Team





Local Planning Team (LPT)



Darrin Punchard
Project Manager & Lead Mitigation Planner



Jamie Caplan
Mitigation Planning & Public Engagement



Isabel Kaubisch
Hazard Analysis & Risk Assessment



Yusef Yip
Quality Control & Assurance



3

Plan Development Process

Purpose

To help Fairhaven become **better prepared** and **more resilient** to potential emergencies and disasters

To identify and assess the community's **natural hazard risks** and determine how to best **minimize and manage** those risks over time

To make Fairhaven eligible and better positioned to receive federal grant funding for **mitigation projects** and other types of non-emergency disaster assistance

Hazard Mitigation

Any action taken to **reduce or eliminate** long-term risk to life and property from hazards.

Mitigation Planning

Engage the community and key stakeholders

Assess hazard risks and mitigation capabilities

Identify mitigation actions that lead to long-term risk reduction

Implement and maintain the plan



4

Plan Development Process

Possible Mitigation Activities

Local Plans and Regulations

Structure and Infrastructure Projects

Natural Systems Protection

Education and Awareness Programs



Plan Development Process

6 Main Tasks / Key Steps

Public outreach and stakeholder engagement throughout

Seeking to maximize credit points under FEMA's Community Rating System (CRS)

See *Fact Sheet* for summary info on key steps

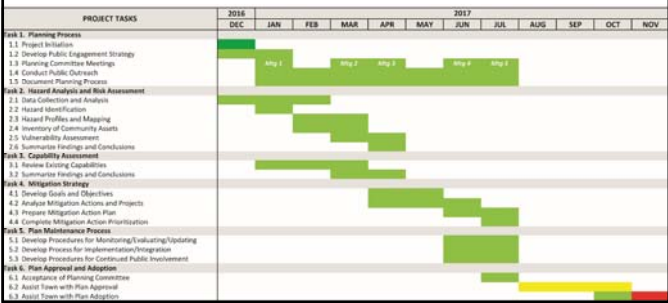
Detailed *Scope of Work* available upon request





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Plan Development Process



Plan Development Process

LOCAL PLANNING TEAM (LPT)		
Steering Committee (Town Staff)		
Planning & Economic Development Emergency Management Agency Building / Conservation Public Works Fire		
Stakeholder Committee (Community Partners – Preliminary List)		
Residents Small Business Owners Major Employers Fairhaven Shipyard Company Fairhaven Business Association New Bedford Area Chamber of Commerce Eversource Energy	Fairhaven Housing Authority Local Realtor Buzzards Bay Coalition Fairhaven Improvement Association North Fairhaven Improvement Assoc. Planning Board (Chair) Conservation Commission (Chair)	School Department Recreation Department Council on Aging SRFEDD Neighboring Town Representatives State Agencies (MEMA, DCR) Insurance Services Office (ISO)

LPT Roles and Responsibilities

- Help guide and inform plan development
- Attend five (5) LPT meetings between now and August, 2017
- Provide supporting data/information upon request
- Assist in the evaluation and prioritization of mitigation actions
- Review and comment on draft plan deliverables
- Approve final draft plan prior to submission to MEMA / FEMA
- Public engagement – *help spread the word!*

Public Engagement Strategy

Objective
To generate public interest, solicit citizen input, and engage additional partners in the plan development process

- Local Planning Team
- Stakeholder Committee
- Public Outreach
 - Project Fact Sheet
 - Public Meetings
 - Public Opinion Survey
 - Project Website
 - Media

Key Data and Resources

- Other relevant Town plans, policies, programs, etc.
 - Technical reports, studies, etc.
 - Local historical records
 - Anecdotal information
 - Maps, photos, etc.
 - GIS data
-

Discussion

- Potential opportunities/synergies
- Potential conflicts/impediments
- Other local issues, concerns, or ideas


Next Steps

- Finalize *Public Engagement Strategy* and begin outreach efforts
- Finalize membership for Stakeholder Committee; gain formal recognition of LPT from Board of Selectmen
- Continue data and information collection efforts
- Complete hazard identification task
- Schedule next LPT meeting (March 2017)



Agenda

1. Welcome and Introductions
2. Project Overview
3. Initial Hazard Identification and Needs Assessment
4. Other Local Issues, Concerns, or Ideas
5. Next Steps



PUNCHARD
CONSULTING

2

Project Overview

Possible Mitigation Activities

- Local Plans and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs



Project Schedule

Planning Team

LOCAL PLANNING TEAM (LPT)

Steering Committee (Town Staff)

Planning & Economic Development
Emergency Management Agency
Building / Conservation
Public Works
Fire

Stakeholder Committee (Community Partners – Preliminary List)

Residents
Small Business Owners
Major Employers
Fairhaven Shipyard Company
Fairhaven Business Association
New Bedford Area Chamber of Commerce
Eversource Energy

Fairhaven Housing Authority
Local Realtor
Buzzards Bay Coalition
Fairhaven Improvement Association
North Fairhaven Improvement Assoc.
Planning Board (Chair)
Conservation Commission (Chair)

School Department
Recreation Department
Council on Aging
SRPEDD
Neighboring Town Representatives
State Agencies (MEMA, DCR)
Insurance Services Office (ISO)

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LPT Roles & Responsibilities

- Help guide and inform plan development
- Attend five (5) LPT meetings between now and August, 2017
- Provide supporting data/information upon request
- Assist in the evaluation and prioritization of mitigation actions
- Review and comment on draft plan deliverables
- Approve final draft plan prior to submission to MEMA / FEMA
- Public engagement – *help spread the word!*


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Public Engagement Strategy

Objective

To generate public interest, solicit citizen input, and engage additional partners in the plan development process

- Local Planning Team
- Stakeholder Committee
- Public Outreach
 - Project Fact Sheet
 - Public Meetings
 - Public Opinion Survey
 - Project Website
 - Media



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Initial Hazard ID and Needs Assessment

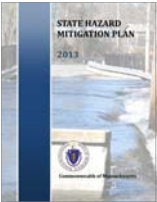
1. What type of **natural hazard** is of most concern to you?
2. What **potential impacts** are the greatest threat to you, your home, your neighborhood, your business, or the community as a whole?
3. Which **locations, populations** or **community assets** do you consider to be most vulnerable?
4. What types of **mitigation actions** are most needed?

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Natural Hazards (current SHMP)

- Coastal Hazards
- Dam Failure
- Earthquake
- Flood
(including Ice Jam)
- Hurricane/ Tropical Storm
- Landslide
- Major Urban Fires
- Nor'easter

- Severe Weather
(including Thunderstorm, High Wind, Tornado, Drought, and Extreme Temperature)
- Severe Winter Weather
(including Snow & Blizzard, and Ice Storm)
- Tsunami
- Wildland Fire




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Natural Hazards (SHMP update)

- Average/Extreme Temperatures
- Coastal Erosion
- Coastal Flooding
- Dam Failure
- Drought
- Earthquake
- Flooding
- Hurricanes/Tropical Storms
- Landslide
- **Sea Level Rise**

- Severe Weather
- Severe Winter Storm
- Tsunami
- Wildfires



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Natural Hazards (SRPEDD Plan)

- Riverine Flood
 - Coastal Flood
 - Erosion
 - Dam Failure
 - Thunderstorm
 - Hurricane
 - Coastal Storm/Nor'easter
 - Winter Storm
 - Downspout
 - Tornado
- Drought
 - Wildfire
 - Urban Fire
 - Earthquake
 - Landslide
 - Sinkhole
 - Subsidence



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Other local issues, concerns, or ideas



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Next Steps

- Finalize *Public Engagement Strategy* and begin outreach efforts
- Finalize membership for Stakeholder Committee; gain formal recognition of LPT from Board of Selectmen
- Continue data and information collection efforts
- Complete hazard identification task
- Schedule next LPT meeting (March 2017)

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Town of Fairhaven
Local Hazard Mitigation Plan

January 12, 2017



Fairhaven, 1938

CRS "What if?" Table for Fairhaven

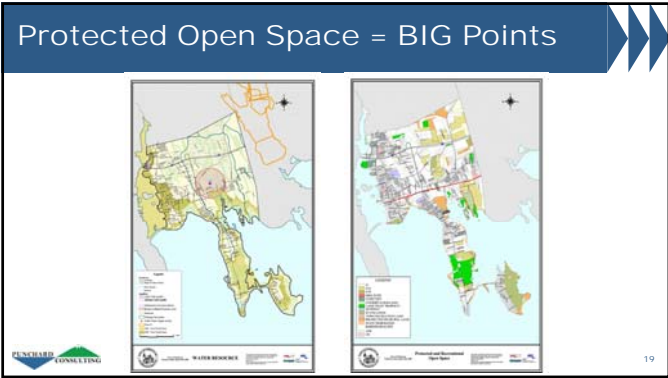
	TOTAL	SFHA ¹	X-STD/AR/99 ²	PRP ³
PIF	763	545	53	165
PREMIUM	\$1,363,966	\$1,232,028	\$52,658	\$79,080
AVERAGE PREMIUM	\$1,788	\$2,261	\$997	\$479
CRS Class				
09 Per Policy	\$84	\$113	\$50	\$0
Per Community	\$64,244	\$61,601	\$2,643	\$0
08 Per Policy	\$48	\$226	\$50	\$0
Per Community	\$125,846	\$123,203	\$2,643	\$0
07 Per Policy	\$248	\$339	\$50	\$0
Per Community	\$187,447	\$184,804	\$2,643	\$0
06 Per Policy	\$339	\$430	\$50	\$0
Per Community	\$251,957	\$249,214	\$2,643	\$0
05 Per Policy	\$430	\$521	\$50	\$0
Per Community	\$322,467	\$319,724	\$2,643	\$0
04 Per Policy	\$521	\$612	\$50	\$0
Per Community	\$394,977	\$392,234	\$2,643	\$0
03 Per Policy	\$612	\$703	\$50	\$0
Per Community	\$467,487	\$464,744	\$2,643	\$0
02 Per Policy	\$703	\$794	\$50	\$0
Per Community	\$539,997	\$537,254	\$2,643	\$0
01 Per Policy	\$794	\$885	\$50	\$0
Per Community	\$602,507	\$599,764	\$2,643	\$0

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CRS "What if?" Table for Fairhaven

	TOTAL	SFHA ¹	X-STD/AR/99 ²	PRP ³
PIF	763	545	53	165
PREMIUM	\$1,363,966	\$1,232,028	\$52,658	\$79,080
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Per Community	\$187,447	\$184,804	\$2,643	\$0

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Town of Fairhaven

Department of Planning & Economic Development

Town Hall • 40 Center Street • Fairhaven, MA 02719
Telephone (508) 979-4082, Ext. 9 • FAX (508)-979-4087

MEETING
NOTICE
REVISED

Hazard Mitigation Plan

Local Planning Team
Stakeholder Committee

PLACE OF MEETING: **Town Hall**
DATE AND TIME: **Thursday, March 16, 2017 at 2:00PM**
MEETING TYPE: **Meeting** _____
William D. Roth March 9, 2017
Director Date

AGENDA

Thursday, March 16, 2017 at 2:00 PM
Banquet Room

2:00–3:30 P.M. Local Planning Team & Stakeholder Committee

1. Introductions
2. Project Status
 - a. Overview
 - b. Data collection & analysis
 - c. Public outreach
3. Hazard Identification
 - a. Results and recommendations
 - b. Hazard ID exercise
 - c. Priority Risk Index (PRI) review
4. Capability Assessment
5. Open Discussion
6. Next Steps

Town of Fairhaven - Local Hazard Mitigation Plan

Local Planning Team, Meeting #2

March 16, 2017

Name	Title / Affiliation	Phone	E-mail
FOVLE, PATRICIA	BOH-AGENT	508-979-4092 x125	BOH@FAIRHAVEN-MA.GOV
WAYNE FOSTIN	Building Dept	508-979-4019 x116	Bcoing@Fairhaven-ma.gov
Umarie Foster	Public Works	508 979 4031	Umfutood@fairhaven-ma.gov
Brian Bowcock	TREES WARDEN	7742432811	drbow@treeforweb.com
Warren Rauschhausen	Director of Recreation	508-993-4249	wraus@fairhaven-ma.gov
Barbara Belk	FITA Pres	608-993-0377	barbel@comcast.net
T.P. Meredith	Community Planning Bd.	508-994-8751	the-meredith@comcast.net
Wayne Hayward		-	-
GAIL CARLISLE	FEMA	508-994-5866	

March 16, 2017

[illegible]

**Town of Fairhaven, Local Hazard Mitigation Plan
Local Planning Team (LPT) Meeting #2**

Date: March 16, 2017

Time: 2:00 PM EST

Meeting Agenda

1. Introductions
2. Project Status
 - a. Overview
 - b. Data collection & analysis
 - c. Public outreach
3. Hazard Identification
 - a. Results and recommendations
 - b. Hazard ID exercise
 - c. Priority Risk Index (PRI) review
4. Capability Assessment
5. Open Discussion
6. Next Steps

Meeting Attendees

Steering Committee:

- William Roth, Director of Planning and Economic Development
- Wayne Fostin, Building Commissioner / Conservation Agent
- Vincent Furtado, BPW Superintendent
- Gary Lavalette, Emergency Management Agency
- Darrin Punchard, Punchard Consulting LLC (*consultant*)

Stakeholder Committee:

- Terrence Meredith, West Island Representative
- Warren Rensehausen, Recreation Center
- Wayne Hayward, Planning Board Chair
- Barbara Acksen, Fairhaven Improvement Association
- Mark Rasmussen, Buzzards Bay Coalition
- Patricia Fowle, Board of Health
- Michael Myers, Police Department
- Brian Bowcock, Tree Warden

* *Also in attendance:* Bobby Bruso, Public Access Television (meeting video recorded for rebroadcast)

Meeting Summary

- Presented an overview of project progress and discussed public outreach and data collection and analysis efforts completed to date.
- Reviewed and confirmed the current inventory of best available data and information to support the hazard analysis and risk assessment and shared initial hazard identification findings to date. This included some additional discussion on critical facilities and other community assets to be included in the GIS-based exposure analysis completed as part of the risk assessment.

- Provided a summary of the Public Opinion Survey and sought additional ideas for the next Open Public Meeting, including possible locations, dates/times, and ways to promote and encourage higher attendance.
- Presented and discussed the detailed, draft outline for the plan document.
- Presented a high-level summary of each hazard identified as significant risk for Fairhaven, including preliminary hazard maps and statistics on historical events and impacts. Final hazard identification and screening determinations were made upon completion of an interactive Hazard ID exercise with all LPT members.
- Shared and affirmed Priority Risk Index (PRI) methodology via consensus from all LPT members.
- Began to solicit input from applicable Steering Committee members on the capability assessment, including confirmation of existing relevant plans, regulations, studies, and other technical reports.
- Discussed next steps, including the completion of the risk and capability assessments and the beginning of mitigation strategy development, as well as future LPT and Open Public Meetings.

Notes/Key Takeaways:

General Points

- Hard copy version of the Public Opinion Surveys would be helpful for seniors and others without internet access. Punchard Consulting noted that a printable/PDF version of the survey is available and the team will include hard copy responses in the summary presentation of survey results, and possibly manually enter into SurveyMonkey.
- Ideas for next Public Meeting
 - PSAs via Public Access TV
 - Combine ads with outreach/promotion for other upcoming events
 - Raffle/door prizes (Punchard Consulting already has some)
 - Guest speaker(s)?
 - Provide project update at annual Hurricane Preparedness / BOS meeting to be held on West Island in June/July (separate from Public Meeting)
- Current FIRMs include a Shaded X Zone, illustrating areas that are protected from the 100-year event by the hurricane barrier. Would be nice to include exposure data for this zone in addition to A Zones and V Zones. Punchard Consulting indicated this could likely be done.
- Wayne Fostin indicated there was a confirmed tornado in Fairhaven in July 1998, despite not showing up in NWS records that were presented. He will share photos of damage at Fairhaven Lumber and additional info as available.
- Outstanding GIS data
 - Vinnie indicated he will get with Linda ASAP to make sure the consultant team has access to any/all requested data layers from BPW.

Other Critical Facilities / Community Assets?

- Hastings Middle School (#1 shelter)
- Wood Elementary School (#2/back-up shelter)
- Town Animal Shelter – referring to sunny day shelter (not for emergency sheltering)
- Rec/Senior Center (Council on Aging)
- EMA facility?
- Housing Authority properties
- Pump stations

Hazard ID Exercise (Ranking Results)

After reviewing and discussing the nine hazards identified as significant for Fairhaven, Punchard Consulting facilitated an interactive exercise to help gain an understanding and some consensus on what the LPT deemed to be the most significant hazards for mitigation planning purposes. Each attending LPT member was given \$50 in mock currency and presented with the following challenge question:

“You are a modern-day Henry Huttleston Rogers. How will you spend your mitigation money?”

Each LPT member was then provided the opportunity to deposit their money into nine different buckets – one for each hazard. The results were as follows:

1. Coastal Storms (\$155)
2. Coastal Erosion and Shoreline Change (\$155)
3. Flood (\$120)
4. Severe Winter Storm (\$115)
5. Severe Weather (\$30)
6. Drought (\$15)
7. Extreme Temperatures (\$5)
8. Fire (\$5)
9. Earthquake (\$0)

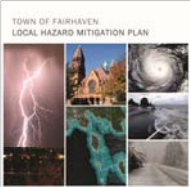
Future Meetings


- Next LPT Meeting (#3) and Open Public Meeting (#2) will likely be held in late May or early June (still TBD). Town is aiming for the Open Public Meeting to be held at the Rec/Senior Center.
- During next visit, schedule additional CRS interviews and set up meeting with Vinnie Furtado, DPW (responsible for highway, water, sewer)
- Schedule possible meet up with Jeff Osuch – former Town Administrator with decades of history/experience in Fairhaven. Key resource for local anecdotal data on hazard events, etc.

Town of Fairhaven
Local Hazard Mitigation Plan

March 16, 2017

Local Planning Team
Meeting #2





3/16/2017

Local Planning Team - Meeting #2

Agenda

1. Introductions

2. Project Status

3. Hazard Identification

4. Capability Assessment

5. Open Discussion

6. Next Steps



Local Planning Team - Meeting #2

Plan Development Process

PROJECT TASKS	2016												2017													
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
Task 1. Planning Process																										
1.1 Project Initiation																										
1.2 Develop Public Engagement Strategy																										
1.3 Planning Committee Meetings																										
1.4 Conduct Public Outreach																										
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2.4 Inventory of Community Assets																										
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6.2 Assist Town/Board/ODA Approval																										
6.3 Assist Town with Plan Adoption																										

Local Planning Team - Meeting #2

Draft Plan Outline

1. Introduction

- Background
- Purpose
- Authority and Scope
- Plan Organization

2. Planning Process

- Overview
- Local Planning Team
- Public and Stakeholder Engagement
- Review of Existing Plans, Reports, and Other Relevant Information
- Compliance with 44CFR and CRS Activity 510

3. Community Profile

- Geography and Climate
- Population, Housing, and Demographics
- Infrastructure and Environment
- Employment and Industry
- Land Use and Development Trends

4. Mitigation Strategy

- Overview
- Problem Statements
- Mitigation Goals and Objectives
- Identification and Analysis of Possible Mitigation Measures
- Land Use and Development Trends
- Selection and Prioritization of Mitigation Actions
- Mitigation Action Plan (MAP)

5. Plan Maintenance

- Plan Implementation and Integration
- Monitoring, Evaluation, and Enhancement
- Continued Public Involvement

Appendix A: Hazard Analysis & Risk Assessment

- Overview
- Hazard Identification
- Hazard Profiles
- Risk Assessment
- Summary Findings and Conclusions

Appendix B: Capability Assessment

- Overview
- Methodology
- Review of Existing Capabilities
- Previously Implemented Mitigation Measures
- Summary Findings and Conclusions

Appendix C: Additional Documentation


- Adoption Resolution
- Resolution Formally Recognizing the LPT
- Local Planning Team Meetings (agendas, notes, sign-in sheets)
- Public and Stakeholder Engagement Activities

Local Planning Team - Meeting #2

Data Collection & Analysis

- Open data sources for risk assessment (hazard profiles, maps, etc.)
- Local GIS data layers:
 - Administrative boundaries, elevation contours, natural features
 - Land use / land cover
 - Parcels linked with CAMA (assessor) data
 - Zoning districts
 - Critical facilities and infrastructure: roads, rail tracks, fire/police station (EOC), schools, nursing homes, assisted living facilities
- Still need:
 - Water/sewer/stormwater infrastructure (pending with BPW)
 - Other community assets or critical facilities?

Town of Fairhaven - Base Map





Local Planning Team - Meeting #2

Data Collection & Analysis

- Existing local plans, studies, reports, and technical information:
 - Town Profile
 - Hurricane Plan (2016)
 - Master Plan (1996)
 - Open Space and Recreation Plan (2010)
 - Town Planning / Resident Survey (SRPEDD, 2008)
 - Harbor Plan (2010)
 - South Coast Rail Corridor Plan / Community Priority Areas (SRPEDD, 2013)
 - Housing Needs Assessment (2009)
 - Affordable Housing Action Plan (2010)
 - Economic Development Plan (1996)
 - Business Study (UMassD, 2010)
 - Tourism Study (UMassD, 2010)
 - Water System Capital Efficiency Plan (2011)
 - Wastewater Management Plan (2014)
 - Town Code (zoning bylaws, subdivision regulations, etc.)

STATE HAZARD MITIGATION PLAN 2014





Local Planning Team - Meeting #2

Public Outreach

- Finalized *Public Engagement Strategy*
- Two active websites:
 - www.jamiecaplan.com/projects/fairhaven
 - www.fairhaven-ma.gov/pages/FairhavenMA_Hazard/index
- **Public Opinion Survey** launched February 22nd
 - Please take the survey, and help *spread the word!*
- Next open **Public Meeting** will be held upon completion of risk and capability assessments



Public Outreach



Public Outreach

- Ideas for next Public Meeting
 - Location(s)? West Island?
 - Best possible daytime?
 - Combine with another meeting/event?
 - Encouraging attendance:
 - Advertising suggestions?
 - Guest speaker?
 - Food?
 - Raffle/door prizes?



Hazard Identification

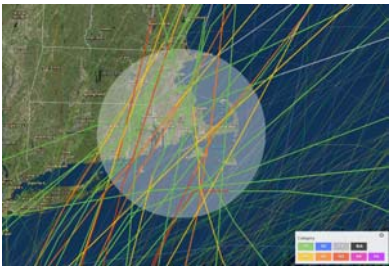
Hazard History

- Quick stats from NOAA's Storm Event Database for Bristol County:
 - 467 **severe** thunderstorm events since 1950, causing 1 fatality, 6 injuries, and estimated \$4.4 million in damage
 - 8 **tornado** events since 1950, causing 5 injuries and estimated \$2.6 million in damage
 - 104 **flood** events since 1996, causing 2 injuries and \$40 million in damage
 - 141 **winter storm** events since 1996, causing no casualties and \$4.1 million in damage
 - 3 **extreme temperature** events since 1996, causing no casualties or damage
 - 2 **drought** events since 2012, causing no casualties or damage

Hazard Identification

Hazard History

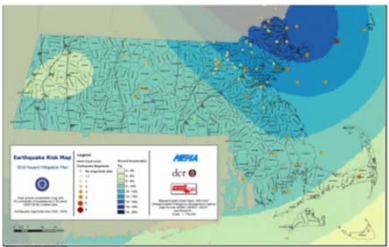
- 28 **hurricanes/tropical storms** have come within 75 miles of Fairhaven since 1858
 - Tropical Storm (15)
 - Category 1 (6)
 - Category 2 (3)
 - Category 3 (4)



Hazard Identification

Hazard History

- More than 1,500 **earthquakes** have occurred in New England since 1638 (366 with epicenters in Massachusetts)
- Most are small in magnitude and cause little damage, but are felt across large areas
- Moderately damaging earthquakes have occurred every few decades



Hazard Identification

Observed and Projected Climate Impacts

- More extreme heat events
- More heavy rainfall events
- Sea level rise = more coastal flood events

Observed Change in Very Heavy Precipitation, 1958-2012

Map of the United States showing observed changes in very heavy precipitation from 1958 to 2012. The map is color-coded by percentage change, with a legend showing ranges from 0% to 100%.

Map of the United States showing observed changes in very heavy precipitation from 1958 to 2012. The map is color-coded by percentage change, with a legend showing ranges from 0% to 100%.

Hazard Identification

Hazard History

- 27 Federal Major Disaster / Emergency Declarations since 1953
 - Hurricane (10)
 - Severe Storms (7)
 - Snow (5)
 - Flood (2)
 - Tornado (1)
 - Terrorist (1)
 - Fishing Losses (1)

Hazard Identification

Declaration Date	Incident Type	Declaration Type	Description
4/13/2015	Severe Storm(s)	Major Disaster	Severe Winter Storm, Snowstorm, and Flooding
4/19/2013	Severe Storm(s)	Major Disaster	Severe Winter Storm, Snowstorm, and Flooding
4/17/2013	Terrorist	Emergency	Explosions
12/19/2012	Hurricane	Major Disaster	Hurricane Sandy
10/28/2012	Hurricane	Emergency	Hurricane Sandy
9/3/2011	Hurricane	Major Disaster	Tropical Storm Irene
8/26/2011	Hurricane	Emergency	Hurricane Irene
9/2/2010	Hurricane	Emergency	Hurricane Earl
3/29/2010	Severe Storm(s)	Major Disaster	Severe Storms and Flooding
12/13/2008	Severe Storm(s)	Emergency	Severe Winter Storm
11/10/2005	Severe Storm(s)	Major Disaster	Severe Storms and Flooding
10/19/2005	Severe Storm(s)	Emergency	Severe Storms and Flooding
9/13/2005	Hurricane	Emergency	Hurricane Katrina Evacuation
2/17/2005	Snow	Emergency	Record and/or Near Record Snow

Hazard Identification

Declaration Date	Incident Type	Declaration Type	Description
1/15/2004	Snow	Emergency	Snow
3/11/2003	Snow	Emergency	Snow
4/10/2001	Severe Storm(s)	Major Disaster	Severe Storms and Flooding
6/23/1998	Flood	Major Disaster	Heavy Rains and Flooding
1/24/1996	Snow	Major Disaster	Blizzard of '96
3/16/1993	Snow	Emergency	Blizzards, High Winds and Record Snowfall
8/26/1991	Hurricane	Major Disaster	Hurricane Bob
10/28/1985	Hurricane	Major Disaster	Hurricane Gloria
2/10/1978	Flood	Major Disaster	Coastal Storms, Flood, Ice and Snow
9/28/1972	Fishing Losses	Major Disaster	Toxic Algae in Coastal Waters
8/20/1955	Hurricane	Major Disaster	Hurricane and Floods
9/2/1954	Hurricane	Major Disaster	Hurricanes
6/11/1953	Tornado	Major Disaster	Tornado

Hazard Identification

13 Natural Hazards Reviewed for Fairhaven:

- Coastal Erosion and Shoreline Change (includes sea level rise)
- Coastal Storm (includes hurricanes, tropical storms, nor'easters, etc.)
- Dam Failure
- Drought
- Earthquake
- Extreme Temperatures
- Fire (includes urban fire and wildfire)
- Flood (includes riverine, coastal, and urban drainage flooding)
- Landslide
- Severe Weather (includes high winds, severe thunderstorms, tornadoes, etc.)
- Severe Winter Storm (includes snow, blizzards, ice storms, etc.)
- Soil Hazards (includes sinkholes, subsidence, expansion or collapse, etc.)
- Tsunami

Hazard Identification

9 Natural Hazards Recommended for Further Study (Risk Assessment):

- Coastal Erosion and Shoreline Change (includes sea level rise)
- Coastal Storm (includes hurricanes, tropical storms, nor'easters, etc.)
- Dam Failure
- Drought
- Earthquake
- Extreme Temperatures
- Fire (includes urban fire and wildfire)
- Flood (includes riverine, coastal, and urban drainage flooding)
- Landslide
- Severe Weather (includes high winds, severe thunderstorms, tornadoes, etc.)
- Severe Winter Storm (includes snow, blizzards, ice storms, etc.)
- Soil Hazards (includes sinkholes, subsidence, expansion or collapse, etc.)
- Tsunami

Screenshot of a risk assessment table for various hazards, showing risk levels and recommended actions.

Hazard Identification

9 Natural Hazards Recommended for Further Study (Risk Assessment):

- Coastal Erosion and Shoreline Change
- Coastal Storm
- Drought
- Earthquake
- Extreme Temperatures
- Fire
- Flood
- Severe Weather
- Severe Winter Storm



Hazard Identification Exercise

You are a modern-day Henry Huttleston Rogers. How will you spend your *mitigation money*?

- Coastal Erosion and Shoreline Change
- Coastal Storm
- Drought
- Earthquake
- Extreme Temperatures
- Fire
- Flood
- Severe Weather
- Severe Winter Storm



Priority Risk Index (PRI)

PRI VALUE =
(LOCATION x .20)
+
(PROBABILITY x .30)
+
(POTENTIAL IMPACT x .30)
+
(WARNING TIME x .10)
+
(DURATION x .10)

PRI CATEGORY	Priority Risk Index (PRI)			ASSIGNED MITIGATION FACTOR
	LEVEL	CRITERIA	INDEX VALUE	
Location	Negligible	Less than 1% of planning area affected	1	20%
	Small	1-5% of planning area affected	2	
	Medium	6-10% of planning area affected	3	
	Large	10-100% of planning area affected	4	
Probability	Unlikely	Less than 1% annual probability	1	30%
	Occasional	1-5% annual probability	2	
	Likely	10-50% annual probability	3	
	Highly Likely	50-100% annual probability	4	
Potential Impact	Minor	Very few structures, if any, likely minor property damage and/or disruption of operations resulting in days of partial or complete shutdown of critical facilities for more than one day	1	30%
	Limited	Minor impacts only; 10-25% of property is affected and/or damaged or disrupted; Complete shutdown of critical facilities for more than one day	2	
	Critical	Multiple facilities/structures possible; More than 25% of property is affected and/or damaged or disrupted; Complete shutdown of critical facilities for more than one week	3	
	Catastrophic	High number of facilities/structures possible; More than 50% of property is affected and/or damaged or disrupted; Complete shutdown of critical facilities for more than one month	4	
Warning Time	More than 24 hours		1	10%
	12 to 24 hours		2	
	6 to 12 hours		3	
	Less than 6 hours		4	
Duration	Less than 6 hours		1	10%
	6 to 24 hours		2	
	1 to 7 days		3	
	More than 1 week		4	

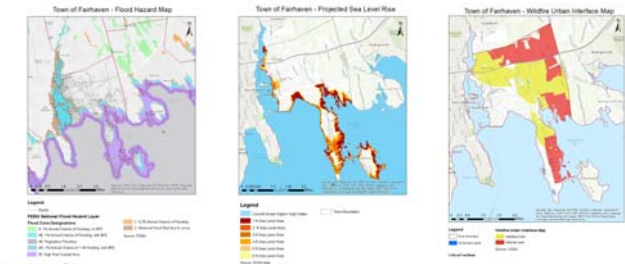


Priority Risk Index (PRI)

HAZARD	MAXIMUM PROBABLE EXTENT
Coastal Erosion and Shoreline Change	Long-term erosion rate of 2+ feet per year or sea level rise of 4 feet by 2100
Coastal Storm	Category 3 hurricane on Saffir-Simpson Hurricane Wind Scale; or Intensity Index Category 4 on Classification Scale for Severe Winter Storms/Nor'easters
Drought	PDSI Value of -4.0 (Extreme Drought) on Palmer Drought Severity Index
Earthquake	Intensity VII on Modified Mercalli Intensity scale
Extreme Temperatures	5 consecutive days with a heat index exceeding 100° or wind chill of less than 20°
Fire	100 acres burned along wildland-urban interface
Flood (3 Types):	
Riverine Flood	1 Percent Annual Chance Flood for all inland FEMA Special Flood Hazard Areas
Coastal Flood	Worst Case Storm Surge Inundation for Category 2 Hurricane
Urban Flood	10-year Design Storm Event
Severe Weather	Winds gusts in excess of 50 knots, hail measuring at least three-quarters of an inch in diameter, or tornado occurrence
Severe Winter Storm	Category 5 storm on Northeast Snowfall Impact Scale



Hazard Mapping



Capability Assessment

Purpose: To assess the Town's existing authorities, policies, programs, and resources available to support hazard mitigation efforts.

Two primary components:

- An inventory of local plans, regulations, programs, and activities already in place
- An analysis of the Town's capacity and resources to carry them out, and it's ability to expand or enhance them for hazard mitigation purposes.

Types of capabilities:

- Planning and regulatory
- Administrative and technical
- Fiscal
- Education and outreach







Capability Assessment

Capability Assessment Survey

Safe Growth Survey


NFIP/CRS Surveys



Local Planning Team - Meeting #2


Open Discussion

- Review Hazard ID Exercise results
- General Q&A

Local Planning Team - Meeting #2

Next Steps

- Please complete and promote the *Public Opinion Survey!*
- Finalize draft capability and risk assessments
- Begin mitigation strategy development
- Schedule next LPT Meeting (late May?)
- Schedule and begin promoting next open Public Meeting

Local Planning Team - Meeting #2



Town of Fairhaven

Department of Planning & Economic Development

Town Hall • 40 Center Street • Fairhaven, MA 02719
Telephone (508) 979-4082, Ext. 9 • FAX (508)-979-4087

MEETING NOTICE

Hazard Mitigation Plan

Local Planning Team
Stakeholder Committee

PLACE OF MEETING: **Town Hall**
DATE AND TIME: **Wednesday, June 7, 2017 at 1:30PM**
MEETING TYPE: **Meeting** _____
William D. Roth May 31, 2017
Director Date

AGENDA

Wednesday, June 7, 2017 at 1:30 PM
Banquet Room

1:30–4:00 P.M. Local Planning Team & Stakeholder Committee

1. Introductions
2. Project Status
3. Risk Assessment Results
 - a. Hazard Profiles
 - b. Vulnerability Analysis
 - c. Summary Conclusions
4. Capability Assessment Results
5. Public Survey Results
6. Mitigation Goals & Strategies
 - * *Brainstorming Exercise*
7. Next Steps

Town of Fairhaven - Local Hazard Mitigation Plan
Local Planning Team, Meeting #3
June 7, 2017

Name	Title / Affiliation	Phone	E-mail
Bill Roth	Fairhaven P&E		
Stan Lavett	Fairhaven EROA		
Timothy Coy	Harbor master		
Todd Corbett	Fire Dept	508-994-1428	TCorbett@Fairhaven-MA.gov
RA Kowalsky, Jr	WHA		
Pat Laule	Boat agent	508-999-4022 x125	
Krisanne Shedy	FHA	508-993-1144	Fhvnhousing@comcast.net
Vincent Fittado	BRW	508-979-4031	
Barbara Aksen	Fhv Improvement Assoc	508-993-6317	baaksen@comcast.net

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**Town of Fairhaven, Local Hazard Mitigation Plan
Local Planning Team (LPT) Meeting #3**

Date: June 7, 2017

Time: 1:30 PM EST

Meeting Agenda

1. Introductions
2. Project Status
3. Risk Assessment Results
 - a. Hazard Profiles
 - b. Vulnerability Analysis
 - c. Summary Conclusions
4. Capability Assessment Results
5. Public Survey Results
6. Mitigation Goals & Strategies
 - * *Brainstorming Exercise*
7. Next Steps

Meeting Attendees

Steering Committee:

- William Roth, Director of Planning and Economic Development
- Todd Correia, Deputy Chief, Fire Department
- Vincent Furtado, BPW Superintendent
- Gary Lavalette, Emergency Management Agency
- Darrin Punchard, Punchard Consulting LLC (*consultant*)

Stakeholder Committee:

- Timothy Cox, Harbormaster
- Krisanne Sheedy, Fairhaven Housing Authority
- Susan Sullivan, Citizen / Floodplain Resident
- Robert Konicki, West Island Representative
- Barbara Acksen, Fairhaven Improvement Association
- Patricia Fowle, Board of Health

Meeting Summary

- Provided status update on entire project, including high-level summary of tasks completed, milestones reached, and draft deliverables submitted and posted for LPT review and input.
- Reviewed and discussed final hazard analysis and risk assessment results, including hazard profiles, map figures, and vulnerability analyses.
- Shared results of the capability assessment and captured additional input and feedback to help finalize the evaluation.
- Shared results of the Public Opinion Survey (169 responses to date)
- Began to review and discuss specific hazard mitigation actions for the Town to consider as part of its overall mitigation strategy, based on the results of the risk and capability assessments and the public input received to date.

Meeting Notes/Key Takeaways

Comments on Risk Assessment Results (see PPT slides for copies of all information presented and discussed):

Storm surge – is a big problem. Storms historically have sent surge into the southeastern side of Sciticut Neck where the house are raised, then pushes to the other side where they aren't.

Sea level rise – should be considered a long-term concern, not a big problem today. It is expected to be a problem in the future with stronger and more frequent storms.

Drought – Not a huge concern.

Earthquake – Felt 2-3 tremors in the last year, one sounded like a "sonic boom."

Extreme Temperatures – Extreme heat is a concern, it lasts longer and there are vulnerable populations

Fire

- Consider housing density
- Look at the intermix between housing and wildfire
- Firefighter suggested - West Island on the map should be a higher amount of danger - had an incident last year, over 70 acres are wooded

Flood

- 17 repetitive loss properties located throughout town (see map of rep loss "areas")
- Hurricane Barrier - never really been tested, by today's standards wouldn't be able to put a dike in
- Question - What is the impact to each side of the barrier with and without it?
- Flooding problems around Cushman Park mostly resolved, through CDBG-funded stormwater improvement projects (box culvert, catch basins, and pipe size increased = can pump 18 gallons a minute)
- Flooding on July 4, 2014 – 120 calls in 24 hours for flooded basements

Severe Weather

- Includes winds, hail, lightning
- July 1, 1998 event was a microburst – not a tornado as reported in draft risk assessment, but resulted in similar to tornado damage. Further research recommended.

Initial Identification/Discussion of Potential Mitigation Actions (in addition to those discussed at the first and second LPT meeting):

- 3-4 areas where snow drift creates a problem
- Education and awareness from hurricane amnesia
- Shelter System improvement
 - Seniors are not comfortable leaving home without pets to live on a cot in a gym
 - Educate them about what is available. Retrofit and fortify the Rec/Senior Center and FHA properties (senior housing) to function as shelters, as much as possible – even if just for during/after winter storms, power outages, etc.

- Do outreach and transportation for seniors
- Develop an evacuation and sheltering plan that addresses pets, in compliance with FEMA requirements
- Retrofit pump stations in critical areas - pull recommendations from sewer and water report prepared by SeaPlan (per Vinnie Furtado). Includes elevation, floodproofing, generators, etc.
- Fairhaven Housing Authority needs generators
 - They have 1 generator and 4 buildings (2 have transfer switches)
- Educate seniors, especially those who are isolated, about the relative safety and comfort of shelters – this isn't New Orleans, no “Superdome issues” to fear
- Conduct drills to educate seniors and better prepare the Town for evac and sheltering
 - MA Commission on Disability distributed disaster kits/backpacks in the past and the seniors really liked this
- Send a letter to everyone (versus only the owners of the 17 repetitive loss properties) to promote techniques to mitigate risk, and learn about grant funding. Consider using water utility bills
- Address the long-term sustainability and potential repair/restoration of the causeway to West Island following a major storm that destroys it.
- Prepare a PDRP (suggested by Darrin and received positive support from LPT)

Hazard ID Exercise (Ranking Results)

After reviewing and discussing potential mitigation actions for Fairhaven, Punchard Consulting facilitated an interactive exercise to help gain an understanding and some consensus on what the LPT considered to be the most important category/technique for potential mitigation strategies to include in the plan. Each attending LPT member was given \$50 in mock currency and presented with the following challenge question: *“You are a modern-day Henry Huttleston Rogers. How will you spend your mitigation money?”*

Each LPT member was then provided the opportunity to deposit their money into four different buckets – one for each identified mitigation category/technique. The results were as follows:

- Education and Awareness – \$140
- Local Plans and Regulations – \$125
- Structure and Infrastructure Projects – \$95
- Natural Systems Protection – \$75

Other Notes:

- CRS – How low can we get? Not past a 7 until building code effectiveness changes.
- Get hard copy of surveys (278) to head of elderly housing and to Council on Aging. Team will manually input responses back into SurveyMonkey.
- Wind Turbines do have an emergency plan and they shut down if it's too windy
- Hazard Committee Website
 - Posted draft plans
 - Suggestions get sent to Bill for edits

Town of Fairhaven
Local Hazard Mitigation Plan

June 7, 2017

Local Planning Team
Meeting #3





Agenda

1. Introductions

2. Project Status


3. Risk Assessment Results

4. Capability Assessment Results

5. Public Survey Results

6. Mitigation Goals & Strategies

7. Next Steps



2

Plan Development Process

PROJECT TASKS	2016				2017							
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
Task 1. Planning Process												
1.1 Project Initiation												
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Project Status

Completed draft Risk Assessment and Capability Assessment deliverables


- Posted to the LPT website at:
http://fairhaven-ma.gov/pages/FairhavenMA_Hazard/index

Public Opinion Survey

- 169 responses to date (launched in February)

Other sections of draft plan are in progress / near completion:

- Introduction
- Planning Process
- Community Profile



4


Document Reviews

Hazard Profiles

- Location – Any specific problem areas not identified?
- Previous Occurrences – Any notable events/impacts not captured? Photos to share?

Capability Assessment

- Confirm accuracy
- Anything missing?




5

Risk Assessment Results

Hazard Profiles

Vulnerability Analysis

Summary Conclusions



6

Hazard Identification Exercise

You are a modern-day Henry Huttleston Rogers. How will you spend your *mitigation* money?

- Coastal Erosion and Shoreline Change
- Coastal Storm
- Drought
- Earthquake
- Extreme Temperatures
- Fire
- Flood
- Severe Weather
- Severe Winter Storm



Results

You are a modern-day Henry Huttleston Rogers. How will you spend your *mitigation* money?

- Coastal Erosion and Shoreline Change (\$155)
- Coastal Storm (\$155)
- Flood (\$120)
- Severe Winter Storm (\$115)
- Severe Weather (\$30)
- Drought (\$15)
- Extreme Temperatures (\$5)
- Fire (\$5)
- Earthquake (\$0)

Priority Risk Index (PRI)

PRI VALUE =
(LOCATION x .20)
+
(PROBABILITY x .30)
+
(POTENTIAL IMPACT x .30)
+
(WARNING TIME x .10)
+
(DURATION x .10)

Priority Risk Index (PRI)				
PRI CATEGORY	LEVEL	CRITERIA	INDEX VALUE	ASSOCIATED MITIGATION FACTOR
Location	Highly Likely	Less than 1% of planning area affected	1	20%
	Small	1-5% of planning area affected	2	
	Moderate	6-10% of planning area affected	3	
	Large	10-100% of planning area affected	4	
Probability	Unlikely	Less than 1% annual probability	1	30%
	Occasional	1-5% annual probability	2	
	Likely	10-50% annual probability	3	
	Highly Likely	50-100% annual probability	4	
Potential Impact	Minor	Very few structures, if any, likely minor property damage and minor impact on complete shutdown of critical facilities for more than one day	1	30%
	Limited	Minor impacts only, 10-25% of property is affected and damaged or destroyed. Complete shutdown of critical facilities for more than one day	2	
	Critical	Multiple facilities/structures possible. More than 25% of property is affected and damaged or destroyed. Complete shutdown of critical facilities for more than one week	3	
	Catastrophic	Large number of facilities/structures possible. More than 50% of property is affected and damaged or destroyed. Complete shutdown of critical facilities for more than one month	4	
Warning Time	More than 24 hours		1	10%
	12 to 24 hours		2	
	6 to 12 hours		3	
	Less than 6 hours		4	
Duration	Less than 6 hours		1	10%
	6 to 24 hours		2	
	1 to 7 days		3	
	More than 1 week		4	

Hazard Profiles

- **General Description** – Provides brief descriptions of the hazard, its characteristics and potential effects.
- **Location** – Provides information on the geographic areas within the planning area that are susceptible to occurrences of the hazard.
- **Severity/Extent** – Provides information on the potential strength or magnitude of the hazard.
- **Previous Occurrences** – Provides information on the history of previous hazard events in the planning area, including their impacts on people and property.
- **Probability of Future Occurrences** – Describes the likelihood of future hazard occurrences in the planning area, including a summary of any anticipated effects that climate change may have on the frequency, duration and intensity of future hazard events.

Coastal Erosion and Sea Level Rise

- Most shoreline areas are at risk – *but some more than others*
- Erosion
 - Average long-term rate = -.04 ft/yr
 - Average short-term rate = -.0.8 ft/yr
 - Most severe erosion caused by episodic coastal storms
- SLR
 - Median of intermediate-to-high scenario = 0.9 feet by 2050; 1.65 feet by 2070; 3.25 feet by 2100



Coastal Storm

- 28 hurricanes/tropical storms have come within 75 miles of Fairhaven since 1858
 - Tropical Storm (15)
 - Category 1 (6)
 - Category 2 (3)
 - Category 3 (4)
- Major disaster declarations:
 - Sandy (2012)
 - Irene (2011)
 - Wilma + Nor'easter (2005)
 - Bob (1991)
 - Gloria (1985)
 - Blizzard of 1978
 - Dianne (1955)
 - Edna and Carol (1954)



DRAFT PRI RESULTS	
LOCATION	Large
PROBABILITY	Likely
POTENTIAL IMPACT	Catastrophic
WARNING TIME	More than 24 hours
DURATION	1 to 7 days

Drought

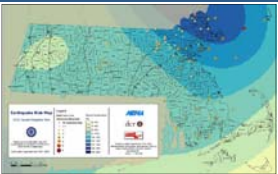
- Western MA may be more vulnerable than eastern MA
- Fairhaven has experienced below average annual precipitation in 35 different years since 1931.
- Drought Warning or Emergency conditions reached infrequently (1943, 1957, 1965, and 2016)
- The 1965-1966 drought period is viewed as the most severe drought to have occurred in modern times in MA (part of the most severe drought on record in the northeastern US)

Recent Drought History			DRAFT PRI RESULTS	
Year	Month	Drought Level	LOCATION	Large
2001	December	Advisory	PROBABILITY	Possible
	February	Advisory	POTENTIAL IMPACT	Minor
	March	Watch	WARNING TIME	More than 24 hours
	April	Watch	DURATION	More than 1 week
2002	May	Watch		
	June	Advisory		
	July	Advisory		
	August	Watch		
2007	September	Watch		
	October	Advisory		
	October	Advisory		
	October	Advisory		
2014	June	Advisory		
	July	Watch		
	August	Warning		
	September	Warning		
2016	October	Warning		
	November	Warning		
	December	Warning		
	January	Warning		
2017	February	Watch		
	March	Advisory		

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Earthquake

- More than 1,500 earthquakes have occurred in New England since 1638 (366 with epicenters in Massachusetts)
- Most are small in magnitude and cause little damage, but are felt across large areas
- Moderately damaging earthquakes have occurred every few decades
- Fairhaven is within a zone with a PGA value of 8-10%, which is considered a low risk zone in terms of potential ground shaking and damage from such an event.

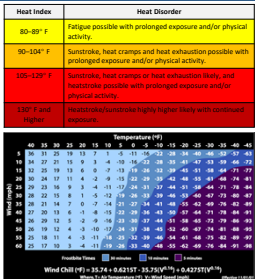


DRAFT PRI RESULTS	
LOCATION	Large
PROBABILITY	Possible
POTENTIAL IMPACT	Minor
WARNING TIME	Less than 6 hours
DURATION	Less than 6 hours

14

Extreme Temperatures

- NOAA historical records indicate only 3 reported events since 1996, causing no casualties (2 extreme heat, 1 extreme cold)
- Climate change will increase the frequency, duration and intensity of extreme heat events
- Growing concern for more vulnerable populations (e.g., elderly persons, young children, persons with respiratory difficulties, and those who are sick or overweight)

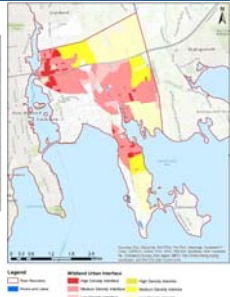


DRAFT PRI RESULTS	
LOCATION	Large
PROBABILITY	Possible
POTENTIAL IMPACT	Minor
WARNING TIME	More than 24 hours
DURATION	1 to 7 days

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Fire

Table A-1.2 Fire Data and Statistics for Fairhaven (2003-2015)									
Year	Total Fires	Structure Fires	Vehicle Fires	Other Fires	Casualties (Deaths/Injuries)	Fire Incident Expenses (\$1000s)	Structure Damages (\$1000s)	Vehicle Damages (\$1000s)	Other Damages (\$1000s)
2003	34	18	7	9	0/0	575	11,287,563	0	0
2004	55	25	8	22	0/0	575	1,949,768	0	0
2005	122	58	12	52	0/0	675	1,738,483	0	0
2006	445	177	4	264	0/0	675	1,085,263	0	0
2007	48	24	11	13	0/0	675	1,035,843	0	0
2008	76	37	10	29	0/0	675	1,048,643	0	0
2009	87	38	15	34	0/0	675	1,047,678	0	0
2010	75	38	8	29	0/0	675	1,018,643	0	0
2011	78	35	10	33	0/0	675	1,048,643	0	0
2012	78	35	10	33	0/0	675	1,048,643	0	0
2013	94	35	12	47	0/0	675	1,048,643	0	0
2014	80	38	12	30	0/0	675	1,048,643	0	0
2015	122	58	12	52	0/0	675	1,048,643	0	0
TOTAL	888	388	106	394	0/0	675	10,418,643	0	0



DRAFT PRI RESULTS	
LOCATION	Moderate
PROBABILITY	Highly Likely
POTENTIAL IMPACT	Limited
WARNING TIME	Less than 6 hours
DURATION	6 to 24 hours

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Flood

- Fairhaven faces 3 types of flood risks – riverine, coastal, and urban
- NOAA historical records include 104 flood events in Bristol County since 1996, causing no fatalities, 2 injuries, and approximately \$40 million in reported property damages
- NFIP Statistics
 - 420 individual losses
 - \$3.5 million in insured damages
 - Average claims payment = \$8,200
 - 17 "repetitive loss properties" (49 losses, \$650k in damages)
- Future conditions = higher risk



DRAFT PRI RESULTS (RIVERINE)	
LOCATION	Small
PROBABILITY	Likely
POTENTIAL IMPACT	Limited
WARNING TIME	More than 24 hours
DURATION	1 to 7 days

DRAFT PRI RESULTS (COASTAL)	
LOCATION	Large
PROBABILITY	Likely
POTENTIAL IMPACT	Catastrophic
WARNING TIME	More than 24 hours
DURATION	1 to 7 days

DRAFT PRI RESULTS (URBAN)	
LOCATION	Small
PROBABILITY	Likely
POTENTIAL IMPACT	Minor
WARNING TIME	Less than 6 hours
DURATION	Less than 6 hours

17

Severe Weather

- Fairhaven faces the risks of severe thunderstorm winds, hail, lightning, and tornadoes
- NOAA historical records include 467 severe weather events in Bristol County since 1950, causing 1 fatality, 6 injuries, and approximately \$4.4 million in reported property damages (majority of damages caused by wind)
- NOAA historical records include 8 tornado events in Bristol County since 1950, causing no fatalities, 5 injuries, and approximately \$2.6 million in reported property damages



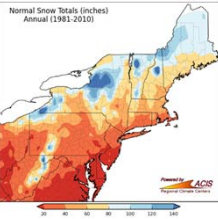
DRAFT PRI RESULTS	
LOCATION	Moderate
PROBABILITY	Highly Likely
POTENTIAL IMPACT	Critical
WARNING TIME	Less than 6 hours
DURATION	Less than 6 hours



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Severe Winter Storm

- NOAA historical records include 145 winter storm events in Bristol County since 1996, causing no casualties and approximately \$4.1 million in reported property damages
- Major emergency/disaster declarations:
 - 2015
 - 2013
 - 2008
 - 2005
 - 2004
 - 2003
 - 1996
 - 1993
 - Blizzard of 1978



DRAFT PRELIMINARY RESULTS	
LOCATION	Large
PROBABILITY	Highly Likely
POTENTIAL IMPACT	Critical
WARNING TIME	More than 24 hours
DURATION	1 to 7 days



A Fairhaven home with damage during Winter Storm Stella in March 2017. Courtesy of Wayne Oliveira, Fairhaven Fire Department.

Vulnerability Analysis

- GIS-based analysis using best available data for select hazards:
 - Flood (riverine and coastal)
 - Hurricane Storm Surge (categories 1-4)
 - Sea Level Rise
 - Wildfire
- Completed to determine current estimated exposure for:
 - Parcels by land use type
 - Buildings
 - Property values
 - Critical facilities

Vulnerability Analysis

- Series of exposure tables identify the **number** and **value** of all properties including their building and property values located in identified hazard zones
 - Exposure = parcels with building footprints that intersect with mapped hazard zone
- Fairhaven's land use classification code (per assessor parcel data) was utilized to classify and obtain data per use category

Exposure table per category	Land use codes used in vulnerability analysis	Description
Residential (Single Family)	001, 006, 013, 015, 016, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073	Residential single family lots
Commercial	081, 082, 083, 084, 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000	Retail stores and shops, offices, restaurants, automotive centers, commercial parking lots, etc.
Industrial	061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083, 084, 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000	Oil and gas storage, gas stations, tankers, and other storage and warehouse facilities
Public Services	001, 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 015, 016, 017, 018, 019, 020, 021, 022, 023, 024, 025, 026, 027, 028, 029, 030, 031, 032, 033, 034, 035, 036, 037, 038, 039, 040, 041, 042, 043, 044, 045, 046, 047, 048, 049, 050, 051, 052, 053, 054, 055, 056, 057, 058, 059, 060, 061, 062, 063, 064, 065, 066, 067, 068, 069, 070, 071, 072, 073, 074, 075, 076, 077, 078, 079, 080, 081, 082, 083, 084, 085, 086, 087, 088, 089, 090, 091, 092, 093, 094, 095, 096, 097, 098, 099, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 5	

Vulnerability Analysis

Table A-4.3.1: Exposure of Critical Facilities to Flood Hazards

Critical Facility	S2MA Flood Zones				Hurricane Storm Surge				Future/Speculated Flood Zone Due to Sea Level Rise			
	Zone A	Zone VI	Zone X	Protected Zone S	Cat 3	Cat 2	Cat 1	Cat 4	MSL +0'	MSL +1'	MSL +2'	MSL +3'
Water Pump Station	1	8	2	5	5	4	2	3	13			3
Wastewater Treatment Plant												
Evans Hall								1				3
School				5				1				
Nursing Home				5			2					2
Police Station												
Fire Station												
Library								1				3
Other critical facilities												



Summary Conclusions

HAZARD	CATEGORY/DEGREE OF RISK					
	LOCATION	PROBABILITY	POTENTIAL IMPACT*	WARNING TIME	DURATION	PRI VALUE
Coastal Erosion and Sea Level Rise	Moderate	Highly Likely	Limited	More than 24 hours	More than 1 week	2.9
Coastal Storm	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3
Drought	Large	Possible	Minor	More than 24 hours	More than 1 week	2.2
Earthquake	Large	Possible	Minor	Less than 6 hours	Less than 6 hours	2.1
Extreme Temperatures	Large	Possible	Minor	More than 24 hours	1 to 7 days	2.1
Fire	Moderate	Highly Likely	Limited	Less than 6 hours	6 to 24 hours	3.0
Flood (3 Types):						
Riverine Flood	Small	Likely	Limited	More than 24 hours	1 to 7 days	2.7
Coastal Flood	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3
Urban Flood	Small	Likely	Minor	Less than 6 hours	Less than 6 hours	2.1
Severe Weather	Moderate	Highly Likely	Critical	Less than 6 hours	Less than 6 hours	3.2
Severe Winter Storm	Large	Highly Likely	Critical	More than 24 hours	1 to 7 days	3.3

Summary Conclusions

HAZARD	CATEGORY/DEGREE OF RISK					
	LOCATION	PROBABILITY	POTENTIAL IMPACT*	WARNING TIME	DURATION	PRI VALUE
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Coastal Storm	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3
Drought	Large	Possible	Minor	More than 24 hours	More than 1 week	2.2
Earthquake	Large	Possible	Minor	Less than 6 hours	Less than 6 hours	2.1
Extreme Temperatures	Large	Possible	Minor	More than 24 hours	1 to 7 days	2.1
Fire	Moderate	Highly Likely	Limited	Less than 6 hours	6 to 24 hours	3.0
Flood (3 Types):						
Riverine Flood	Small	Likely	Limited	More than 24 hours	1 to 7 days	2.7
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Urban Flood	Small	Likely	Minor	Less than 6 hours	Less than 6 hours	2.1
Severe Weather	Moderate	Highly Likely	Critical	Less than 6 hours	Less than 6 hours	3.2
Severe Winter Storm	Large	Highly Likely	Critical	More than 24 hours	1 to 7 days	3.3

Summary Conclusions

HIGH RISK	Coastal Storm Coastal Flood Severe Winter Storm Severe Weather
	Fire Coastal Erosion and Sea Level Rise Riverine Flood
MODERATE RISK	
LOW RISK	Drought Earthquake Extreme Temperatures Urban Flood

Capability Assessment

Purpose: To assess the Town's existing authorities, policies, programs, and resources available to support hazard mitigation efforts.

Two primary components:

- An inventory of local plans, regulations, programs, and activities already in place
- An analysis of the Town's capacity and resources to carry them out, and it's ability to expand or enhance them for hazard mitigation purposes.

Types of capabilities:

- Planning and regulatory
- Administrative and technical
- Fiscal
- Education and outreach

Capability Assessment

Capability Assessment Survey

Safe Growth Survey

NFIP/CRS Surveys

Capability Assessment

Relevant plans, policies, and other related documents:

- Master Plan for the Town of Fairhaven (1996)
- Open Space and Recreation Plan (1996)
- Open Space and Recreation Survey (2016)
- Hurricane Plan (2016)
- Harbor Plan (2010)
- Town of Fairhaven Capital Improvement Plan, FY-18-22 (2017)
- Town Administrator Recommended Budget (2016)
- Fairhaven Housing Needs Assessment (2009)
- Fairhaven Affordable Housing Action Plan (2010)
- Town of Fairhaven Business Study (2010)
- Town of Fairhaven Tourism Study (2010)
- Town of Fairhaven Resident Survey (2008)
- South Coast Rail Corridor Plan, Five-Year Update of Community Priority Areas (2013)
- Strategy for Fairhaven's Economic Future (1996)
- Wastewater Management Plan (2013)
- Water System Capital Efficiency Plan (2011)
- 2016 Regional Transportation Plan. SRPEDO. 2016.
- Transportation Improvement Program, 2017-2021. SRPEDO. 2016.
- National Hazard Pre-Disaster Regional Mitigation Plan. SRPEDO. 2014.
- City of New Bedford Local Multi-Hazard Mitigation Plan. City of New Bedford. 2015.
- Final Report: Results from a VCAPS Planning Workshop for Extreme Weather and Climate Change in New Bedford and Fairhaven, Massachusetts. Social and Environmental Research Institute. December 2012.
- Climate Change Vulnerability Assessment and Adaptation Planning Study for Water Quality Infrastructure in New Bedford, Fairhaven and Acushnet. Buzzards Bay National Estuary Program. 2014.
- Projected Expansion of the Floodplain with Sea Level Rise in Fairhaven, Massachusetts. Buzzards Bay National Estuary Program and Massachusetts Office of Coastal Zone Management. Technical Report SLR12-1. 2012.



Capability Assessment Results

Plans

- ☒ Master Plan
- ☒ Open Space and Recreation Plan
- ☒ Hurricane/Emergency Plan
- ☒ Harbor Plan
- ☒ Economic Development Plan
- ☐ Capital Improvements Plan
- ☐ Emergency Operations Plan
- ☐ Continuity of Operations Plan
- ☒ Transportation Plan
- ☐ Stormwater Management Plan
- ☐ Wastewater Management Plan
- ☐ Historic Preservation Plan
- ☐ Community Wildfire Protection Plan
- ☒ Other special plans?
 - Affordable Housing Action Plan
 - Town of Fairhaven South Coast Rail Corridor Plan

Building Code, Permitting, and Inspections

- ☒ Building Code
- ☒ ISO Mitigation Ratings
- ☒ Site Plan Review Requirements

Zoning and Development Regulations

- ☒ Zoning Bylaws
- ☒ Subdivision Regulations
- ☒ Floodplain Regulations
- ☒ Stormwater Management Regulations



Capability Assessment Results

Table B-1: Planning and Regulatory Capabilities

Planning/Regulatory Tool	Responsible Authority	General Description and Effectiveness for Hazard Risk Reduction
Plan		Does the plan address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used for mitigation and adaptation action?
Master Plan	Planning Board	<p>Comprehensive master plan to guide future land use and development decisions for the town. The current plan (2006) addresses flood hazards, both in terms of coastal erosion and interior damage problems. Existing protection features and some needed or recommended flood control projects are identified, including needs through open space preservation (including through land acquisition). It also briefly discusses citizens' needs and concerns of flood and culture as highlighted by the Town's proximity to Buzzards Bay.</p> <p>The development of a new Master Plan (Fairhaven 2006) is underway, concurrent with the preparation of the Hazard Mitigation Plan. The new planning efforts are being coordinated in a manner that will more effectively integrate hazard mitigation policies and projects into the Master Plan. The new plan will have a more focused focus on sustainability, including resilience, which will incorporate information from this plan on natural hazards and serve as an important tool to be leveraged to support the implementation of mitigation actions.</p>
Open Space and Recreation Plan	Planning Board	<p>The plan identifies current assets and establishes the community goals, objectives, and actions for acquiring, preserving, enhancing, and maintaining open space and recreation areas for the town. The current plan (2006) addresses flood hazards, noting that the major flooding threat in Fairhaven occurs on low-lying coastal lands. It also notes the critical protective features of historic buildings, wetlands, and salt marshes and establishes that coastal areas along Buzzards Bay are those requiring the highest priority in open space preservation. It includes describing existing protection features and some recently completed or ongoing flood risk reduction projects, including drainage improvements and improved floodplain zoning requirements.</p> <p>The current plan is currently being updated in coordination with the Southwestern Regional Planning and Economic Development District (SRPEDO), at the time of this writing the goals and actions included in the existing plan were determined to still be relevant, but a working effort suggested that Town residents remain very supportive of the preservation and expansion of open space and recreational areas. Nearly 80 percent of these conserved natural resources and should be set aside for consideration and open space preservation. The plan also identifies flood risk reduction projects that can support the implementation of mitigation actions.</p>



Capability Assessment Results

Opportunities to Improve, Expand, or Enhance for Hazard Risk Reduction Purposes

1. Ensure natural hazard risks and hazard mitigation/climate adaptation principles and practices are integrated into the Master Plan Update.
2. Prepare a post-disaster recovery plan for the Town to address foreseeable issues related to the continuity of government, short-term recovery, and long-term community redevelopment following a major disaster event (e.g., major coastal storm similar to the Great Hurricane of 1938).
3. Require higher design flood elevations for new or substantially-improved **public facilities** located in coastal flood hazard areas to decrease their vulnerability to future conditions that may increase flood hazard risks including coastal erosion, sea level rise, and storm surge from coastal storms.
4. Promote higher design flood elevations for new or substantially-improved **residential structures** located in coastal flood hazard areas to decrease their vulnerability to future conditions that may increase flood hazard risks including coastal erosion, sea level rise, and storm surge from coastal storms; and to decrease future flood insurance costs for property owners.
5. **More ideas?**



Capability Assessment Results

Table B-2: Administrative and Technical Capabilities

Administrative/Technical Resource	Fairhaven (FTH)/Partner (PT)/Volunteer (V)	General Description and Effectiveness for Hazard Risk Reduction
Administration		Describe capability. Is coordination effective?
Planning Board	FTH/PT/V	<p>The Planning Board studies the resources and needs of the Town, particularly conditions affecting public welfare and safety related to land use and development. The Board uses the Master Plan and related provisions to plan and make recommendations for the development of the Town, with special attention to the proper housing of Town residents. The Board has total responsibility for all subdivisions, for the administration of the Subdivision Regulations, and for Special Permits required by the Fairhaven Zoning Bylaw. The Board also has the primary responsibility for the writing of Zoning Bylaws, reviewing amendments to the Zoning Bylaw, which appear in the Warrant for any Town Meeting, and to present its recommendations to the Town for consideration at each Town Meeting.</p> <p>The Planning Board is an effective mechanism for handling all the above responsibilities and maintains the capability to integrate hazard risk reduction strategies into many other plans, processes, and decisions with regard to future land use and development in Fairhaven.</p>
Local Planning Team (for Mitigation Planning)	FTH/PT/V	<p>The Town established the Local Planning Team (LPT) in early 2017 to oversee the development of the Hazard Mitigation Plan. It includes a Steering Committee made up of Town staff from key departments as well as a Stakeholder Committee that includes a broad range of residents and representatives from non-municipal organizations or associations. The LPT has proven to be an effective group for purposes of Hazard Mitigation Plan development, and it is recommended they continue working in the future as the primary organization for overseeing the monitoring, implementation, integration, and updating of the plan.</p>



Capability Assessment Results

Opportunities to Improve, Expand, or Enhance for Hazard Risk Reduction Purposes

1. Establish routine schedule for future meetings of the Local Planning Team as the primary organization for overseeing the monitoring, implementation, integration, and updating of the Hazard Mitigation Plan.
2. Join the Massachusetts Statewide Mutual Aid Agreement.
3. Support additional training and professional development for staff as it relates to hazards management, including participation at FEMA's Emergency Management Institute and/or MEMA Headquarters, as well as future conferences or training/certification programs for local planners and floodplain managers (e.g., Certified Floodplain Manager).
4. Build local capacity and resources for internal GIS functions and services, versus contracting out.
5. **More ideas?**



Capability Assessment Results

Table B-3: Financial Capabilities

Assessment Tool/Source	Accountable for Hazard Mitigation (Yes/No)	General Description and Effectiveness for Hazard Risk Reduction How the funding resources have been used to prevent and/or reduce the likelihood of hazard risk reduction. Could the resources be used to fund future mitigation actions?
General Funds	Yes	General funds have been available to various programs and initiatives related to hazard risk reduction. This includes 100% funding for some projects in addition to local match for Federal funds to develop and implement hazard risk reduction projects, such as stormwater drainage improvements. Most recently general funds were used to support the development of a Hazard Risk Guide for the Town, which includes a new "Sustainability" element that integrates hazard and climate resilience.
Capital Improvement Program (CIP) Funding	Yes	The Town Code, the Capital Improvement Program (CIP) is established for bond purchases, construction and renovation of buildings, major equipment and machinery purchases, and and drainage improvements, and the construction and renovation of general facilities such as local school projects, sewer and water main, and water treatment and sewage disposal facilities. The CIP has been used to the point to address hazards through structural improvements, engineering studies and projects, and equipment purchases and should be considered a source to support the future implementation of mitigation actions.
Special purpose taxes	No	The creation of any special purpose taxing authority or district would require a referendum to appear on an ballot to annual county voters on how much the Town of Fairhaven can raise in tax revenue.
Fee for water, sewer, gas, or electric services	No	Water and sewer fees are collected as enterprise funds by through the Town's Department of Public Works in order to offset operational expenses in addition to receive federal monies and to operations. As a result, the town has been able to maintain the flexibility to incur expenses for all financial activities associated with a broad range of community services. It is difficult to maintain a separate budget for hazard mitigation, but the town has been able to maintain a separate budget for hazard mitigation. The town has been able to maintain a separate budget for hazard mitigation. The town has been able to maintain a separate budget for hazard mitigation.
Development utility fee	No	Not established by Town of Fairhaven.
Development impact fee	No	Not used by Town of Fairhaven.
Rebate through general obligation bonds and/or special tax bonds	No	The Town of Fairhaven uses debt service for only a very small percentage of its current budget, and is not currently planning to issue bonds to finance capital projects. The town has been able to maintain a separate budget for hazard mitigation. The town has been able to maintain a separate budget for hazard mitigation.

Capability Assessment Results

Table B-4: Education and Outreach Capabilities

Program/Organization	Yes/No	Description and Effectiveness for Hazard Risk Reduction Describe program(s)/organization and how related to disaster resilience and mitigation. Could the program(s)/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Yes	Green Fairhaven, the Town's Sustainability Committee, has adopted a special emphasis to educate and engage the community in its efforts to create a healthy environment and future for the community. The committee could be an effective mechanism for integrating traditional risk reduction and broader community resilience strategies into other related long-term community planning and outreach activities.
Ongoing public education or information program (e.g., responsible water use, fire safety, hazardous materials, environmental education)	Yes	The Town's Office of Aging focuses on the needs of the elders and seniors in the community and provides appropriate programs and services to meet those needs. The Council serves as a venue for education and outreach materials that can be specifically tailored for this segment of the population which may be more vulnerable to the effects of natural hazards.
Natural disaster or safety-related school programs	Yes	Example include: • The Town website is regularly updated with public education/information materials on a variety of topics, including hurricane preparedness. • Annual hurricane preparedness meeting is held at the West Island Improvement Association community center. • The Fairhaven Fire Department participates in Massachusetts State Grant that funds the Fire Education of children in the school system. Each school year firefighters enter Fairhaven's pre-school and elementary schools to teach children the dangers of fire.
Disaster preparedness certification	No	The Town of Fairhaven does not currently participate in the Disaster Preparedness program.
Firearm Certification	No	The Town of Fairhaven does not currently participate in the Firearm Certification program.
Public-private partnership initiatives addressing disaster-related issues	No	

Capability Assessment Results

Table B-7: Previously Implemented Mitigation Measures

Mitigation Measure	Description and Effectiveness for Hazard Risk Reduction
Stormwater Drainage Improvements	Previous drainage projects were completed for Central Fairhaven and Cushman Park using the Town's general funds and CIP process as well as through federal CDBG grant funds. The Cushman Park area had been identified as one of the Town's most vulnerable locations to flooding from heavy rainfall events and inner harbor flooding. Drainage improvements including new storm sewer infrastructure, primarily funded through CDBG, have increased the capacity of wastewater pipes and culverts, reducing the severity of flooding in the entire area.
Underground Utilities	Underground utilities were put in place to West Island after Hurricane Bob topped most of the utility poles that were exposed to the pounding waves and wind along the causeway.
Hurricane Barrier	The New Bedford Fairhaven Hurricane Barrier was completed in May 1966 and is operated and maintained by the USACE, the City of New Bedford, and the Town of Fairhaven. The barrier consists of three separate structures: the main barrier, the Clarks Cove Dike, and the Fairhaven Dike. Fairhaven Dike is located across the tidal marshes at the head of Priests Cove and provides protection from coastal flooding to all but Scituate Neck, West Island, and the northern shore of Nasketucket Bay. The barrier was accredited by FEMA in 2011 and is shown on the effective FIRM as providing protection from the 1-percent-annual-chance flood, but it has been assumed that the barrier would fail in a 0.2-percent-annual-chance flood event.
Others to add here?	

Public Opinion Survey

- Public Opinion Survey Purpose
 - Participate in the mitigation planning process.
 - Measure public's experience with natural hazards.
 - Measure levels of awareness and preparedness.
 - Measure attitude toward hazard mitigation, including priorities for mitigating risk.
- Distribution
 - Online through SurveyMonkey
 - Press Release – Newspaper
 - Websites
 - Social Media - Facebook
 - Postcard for Town Meeting
 - Hardcopy

Fairhaven, MA Hazard Mitigation Plan



To become better prepared and more resilient to potential emergencies and disasters, the Town of Fairhaven is developing its first-ever natural hazard mitigation plan.

Fairhaven is vulnerable to a range of natural hazards that have the potential to cause property damage, loss of life, service disruption, economic hardship, and other adverse impacts to our community. These hazards include but are not limited to hurricanes, nor'easters, floods, severe winter storms, and other naturally occurring events that threaten our region. In recognition of these potential hazard threats, the Town of

Take the online survey!

Take our Survey

Help us gather information to make Fairhaven a more resilient town.

Public Opinion Survey Results

- 169 surveys completed
- Majority have experienced natural hazards
 - Hurricane, Tropical Storm, Nor'easter, or Major Coastal Storm
 - Winter Storm
 - Severe Thunderstorm
- Level of concern for natural hazards about the same as those experienced
 - Coastal Erosion, Flood, Sea Level Rise

How concerned are you about the possibility of climate change increasing your community's future risk to natural hazards?

- Very Concerned 49%
- Somewhat Concerned 34%
- Not Concerned 17%

Public Opinion Survey Results

- In general, mitigation activities fall into one of the following four broad categories. Please tell us how important you think each one is for your community to pursue.

	Very Important	Some Importance
Local Plans and RegulationsThese actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	74.59% 91	
Structure and Infrastructure ProjectsThese actions involve modifying existing buildings and infrastructure or removing them from a hazard area. Structures such as drainage systems and flood walls are also considered here.	61.48% 75	
Natural Systems ProtectionThese are actions that minimize damage and losses by preserving or restoring the functions of natural systems (such as dunes, floodplains, and wetlands).	64.75% 79	
Education and Awareness ProgramsThese are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.	58.68% 71	

Public Opinion

- Which of the following actions do you think should be taken in order to reduce damage and disruption from hazard events within the Town of Fairhaven? Please rank each option as a high, moderate, or low priority.

	High Priority
Strengthen infrastructure such as roads, bridges, water/wastewater and electric power supply facilities	69.67% 85
Enhance or restore the capacity of natural features (dunes, floodplains, wetlands) to absorb impacts of natural hazards	54.55% 66
Install or improve protective structures such as dams, levees, flood walls, and bank stabilization projects	50.00% 61
Strengthen building codes and regulations to include higher standards for new development in known hazard areas	45.08% 55
Develop climate adaptation plans, policies or projects to minimize potential negative impacts from climate change	44.26% 54

Results

Strengthen critical public facilities such as police, fire, schools, and hospitals	43.80% 53
Provide better public information about hazard risks and available mitigation measures	42.15% 51
Protect cultural and/or historic resources such as monuments, museums, historic landmarks, etc.	32.23% 39
Assist vulnerable property owners with securing funding for mitigation projects	29.75% 36
Acquire vulnerable properties from willing sellers, remove or relocate existing structures and maintain as open space	21.67% 26

Public Opinion Survey Results

How prepared is your household to deal with a natural hazard event?
Answered: 118 Skipped: 51

Preparedness Level	Percentage
Very Prepared	10%
Adequately Prepared	35%
Somewhat Prepared	35%
Not Prepared	15%
Not Sure	5%

76% don't have flood insurance - say they don't live in a floodplain

	Have Done
Install smoke detectors and carbon monoxide detectors on each level of the house	96.64% 115
Store a fire extinguisher	80.83% 97
Receive first aid/CPR training	77.97% 92
Make a fire escape plan	68.91% 82
Identify and understand utility shutoffs	68.07% 81
Store a battery-powered radio	60.83% 73
Prepare a household/family emergency plan	48.70% 58

Public Opinion Survey Results

In which neighborhood do you live now?
Answered: 91 Skipped: 76

Neighborhood	Percentage
Town Center	35%
North Fairhaven	30%
West Island	10%
East Fairhaven	10%
Sciticut Neck	5%

What is the most effective way for you to receive information?

- Email/Electronic Newsletter
- Mail
- Internet
- Social Media
- Text Message
- Phone Call
- Newspaper
- Television
- Public Workshop
- Radio

Public Opinion Survey Results

Individual responses – Actions that Fairhaven should take to reduce hazard risk:

- Mitigate isolation of residents in the event of flooding in low lying areas of Sciticut Neck Road.
- Develop an action plan for West Island in the event of a large scale event.
- Invest in green infrastructure and coastal conservation.
- Don't build in wetland areas.
- Provide shelters for people impacted by storms or loss of utilities.
- Use Reverse 911 for community related incidents.
- Have a real LEPC (Local Emergency Planning Committee)
- Maintain trees. Add trees for wind protection.
- Protect the West Island Causeway.

Mitigation Goals & Objectives

Possible Mitigation Activities

- Local Plans and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs


Mitigation Strategy Exercise

You are a modern-day Henry Huttleston Rogers. How will you spend your mitigation money?

- Local Plans and Regulations – government authorities, policies, or codes that influence the way land and buildings are developed and built.
- Structure and Infrastructure Projects – modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. Also involves constructing new manmade structures to reduce hazard risks.
- Natural Systems Protection – actions that minimize damage and losses and also preserve or restore the functions of natural systems.
- Education and Awareness Programs – actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.

Mitigation Strategy Brainstorming


- Challenge Question:
What specific actions should be taken to make Fairhaven safer from hazards?
- Guidelines:
 - Assemble into breakout groups
 - Elect a group leader
 - Spend 15 minutes discussing ideas for mitigation actions
 - Spend 5 minutes identifying/capturing the specific mitigation actions to recommend



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Mitigation Strategy Brainstorming

- Group Leaders
 - Summarize each recommended action on large Post-It
- Your Challenge:
 - 10 words or less
 - Write **BIG**
 - Be **readable**
 - One idea per sheet!!
 - Focus on mitigation vs. preparedness or response activities



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Elevate Boulder Park pump station

Maintain / add more trees for wind protection

Mitigation Strategy

Some early ideas (from LPT):


- Oxford Terrace generator – elderly housing, with large common area suitable to serving the Town and 1st Responders
- New First Responder Facility (fire and police)
- New EMA Clubhouse
- Rehab Rogers School (which is "rotting")
- Pet-friendly shelters
- Quick connects and generators for Rec Center and Senior Center, and Housing Authority properties (see above). Address critical social vulnerabilities.
- Education and awareness (e.g. website/flyer, PSAs, etc.) on electrical/generator safety (homes and businesses)
- Outreach on seismic design/supply standards for large commercial facilities
- Outreach to farming community on climate change adaptation (beekeepers, etc.)
- Dealing with West Island residents who won't evacuate. Many accept risks that they don't fully understand, others feel they have no place to go (especially w/ pets). Delayed re-entry to island also another major disincentive to leave.
 - 250+ people stayed on island during Hurricane Carol in 1954
 - Causeway was not passable after Hurricane Bob in 1991



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Next Steps


- Complete review of draft plan documents
 - Hazard Profiles
 - Capability Assessment
- Please complete and promote the *Public Opinion Survey*
- Begin mitigation strategy development
- Schedule next LPT Meeting (July/August?)



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Document Reviews

- Hazard Profiles
 - Location – *Any specific problem areas not identified?*
 - Previous Occurrences – *Any notable events/impacts not captured? Photos to share?*
- Capability Assessment
 - Confirm accuracy
 - Anything missing?



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Town of Fairhaven

Department of Planning & Economic Development

Town Hall • 40 Center Street • Fairhaven, MA 02719

Telephone (508) 979-4082 • FAX (508)-979-4087

MEETING

NOTICE

Hazard Mitigation Plan and Local Planning Team Meeting

PLACE OF MEETING: **Town Hall**

DATE AND TIME: **Tuesday, October 24, 2017 at 10 AM**

MEETING TYPE: **Meeting**

William D. Roth, Jr.
Planning Director

October, 11, 2017
Date

AGENDA

Hazard Mitigation Plan

Local Planning Team Meeting #4

Tuesday, October 24, 2017 at 10:00 AM

Banquet Room

10:00 AM – 12:00 PM

1. Introductions
2. Project Update
3. Mitigation Strategy Development
 - a. Mission Statement
 - b. Mitigation Goals
 - c. Review Possible Mitigation Activities
 - d. Selection and Prioritization of Mitigation Actions
4. Plan Maintenance Procedures
5. Next Steps

The purpose of this meeting is to reconvene Fairhaven's Local Planning Team (Town staff and invited stakeholders) to receive an update on the development of the Town's first hazard mitigation plan, and to capture ideas and input on the Town's overall strategy to mitigate natural hazards. This includes the creation of long-term goals for the plan, in addition to the review and discussion of specific mitigation actions and projects for the Town to pursue. Recommended procedures for future implementation and maintenance of the plan will also be discussed.

Please note that final draft versions of the Risk Assessment and Capability Assessment plan sections have been posted to our website here: http://www.fairhaven-ma.gov/pages/FairhavenMA_Hazard/DraftPlans/

You are encouraged to review these documents prior to the meeting, and even if you can't attend, please send along any additional comments or suggested edits to me.

Town of Fairhaven - Local Hazard Mitigation Plan
Local Planning Team, Meeting #4
October 24, 2017

Name	Title / Affiliation	Phone	E-mail
Mary Freire - Kellogg	Health Agent	508-977-4033 ex 125	M Kellogg.fairhaven-ma.gov
Warren Reedhausen	Recreation Director	508-993-9269	wreedhausen@fairhaven-ma.gov
Roger Gautreaux	EMA Dep	508 989 2344	DDEMA1988@GMAIL
Tim Francis	FAIRHAVEN FIRE	508-984-1428	FRANCIS@FAIRHAVEN-MA.GOV
Bill Rota	Planning Director	508-977-4082 x12	BILL@FAIRHAVEN-MA.GOV
Kris Sheedy	Housing Authority	508-993-1144	fhvhousing@comcast.net
Vin Vitale	BEW	508 999 4031	vitale@fairhaven-ma.gov
Dustin Pouchard	Pouchard Consulting	617-777-2001	dustin.pouchard@pouchardconsulting.com

Town of Fairhaven
Local Hazard Mitigation Plan

October 24, 2017

Local Planning Team
Meeting #4





Agenda


1. Introductions

2. Project Update

3. Mitigation Strategy Development

4. Plan Maintenance Procedures

5. Next Steps



2

Project Update






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Risk Assessment Summary


HAZARD	LOCATION	PROBABILITY	CATEGORY/DEGREE OF RISK			
			POTENTIAL IMPACT*	WARNING TIME	DURATION	PRI VALUE
Coastal Erosion and Sea Level Rise	Moderate	Highly Likely	Limited	More than 24 hours	More than 1 week	2.9
Coastal Storm	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3
Drought	Large	Possible	Minor	More than 24 hours	More than 1 week	2.2
Earthquake	Large	Possible	Minor	Less than 6 hours	Less than 6 hours	2.2
Extreme Temperatures	Large	Possible	Minor	More than 24 hours	1 to 7 days	2.1
Fire	Moderate	Highly Likely	Limited	Less than 6 hours	6 to 24 hours	3.0
Flood (3 Types):						
Riverine Flood	Small	Likely	Limited	More than 24 hours	1 to 7 days	2.7
Coastal Flood	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3
Urban Flood	Small	Likely	Minor	Less than 6 hours	Less than 6 hours	2.1
Severe Weather	Moderate	Highly Likely	Critical	Less than 6 hours	Less than 6 hours	3.2
Severe Winter Storm	Large	Highly Likely	Critical	More than 24 hours	1 to 7 days	3.3



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Risk Assessment Summary


HAZARD	LOCATION	PROBABILITY	CATEGORY/DEGREE OF RISK			
			POTENTIAL IMPACT*	WARNING TIME	DURATION	PRI VALUE
Coastal Erosion and Sea Level Rise	Moderate	Highly Likely	Limited	More than 24 hours	More than 1 week	2.9
Coastal Storm	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3
Drought	Large	Possible	Minor	More than 24 hours	More than 1 week	2.2
Earthquake	Large	Possible	Minor	Less than 6 hours	Less than 6 hours	2.2
Extreme Temperatures	Large	Possible	Minor	More than 24 hours	1 to 7 days	2.1
Fire	Moderate	Highly Likely	Limited	Less than 6 hours	6 to 24 hours	3.0
Flood (3 Types):						
Riverine Flood	Small	Likely	Limited	More than 24 hours	1 to 7 days	2.7
Coastal Flood	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3
Urban Flood	Small	Likely	Minor	Less than 6 hours	Less than 6 hours	2.1
Severe Weather	Moderate	Highly Likely	Critical	Less than 6 hours	Less than 6 hours	3.2
Severe Winter Storm	Large	Highly Likely	Critical	More than 24 hours	1 to 7 days	3.3



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Risk Assessment Summary

HIGH RISK	Coastal Storm Coastal Flood Severe Winter Storm Severe Weather
MODERATE RISK	Fire Coastal Erosion and Sea Level Rise Riverine Flood
LOW RISK	Drought Earthquake Extreme Temperatures Urban Flood



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Capability Assessment Summary		
Capability Type	Overall Rating	Enhancement Opportunities
Planning & Regulatory	High Capability	<ul style="list-style-type: none">Integrate mitigation/adaptation into Master PlanStrengthen existing zoning & development regulationsPrepare post-disaster recovery planPrepare emergency evacuation & shelter plan <ul style="list-style-type: none">Submit application to join FEMA's CRS programDevelop tree preservation/maintenance plan
Administrative & Technical	Moderate Capability	<ul style="list-style-type: none">Maintain regular meetings of the Hazard Mitigation Planning CommitteeJoin the Massachusetts Statewide Mutual Aid AgreementSupport additional training and professional development for staffBuild local capacity and resources for internal GIS functions and services (versus contracting out)
Financial	Moderate Capability	<ul style="list-style-type: none">Continue pursuit of federal and state grantsConduct more detailed project scoping and benefit/cost analysis for mitigation projectsCoordinate with SRPEDD and neighboring communities on regional mitigation projects/activitiesAdvertise and promote availability of funds to assist property owners to reduce risk
Education & Awareness	Moderate Capability	<ul style="list-style-type: none">Develop hazard-specific flyers/brochuresPromote availability of flood insuranceEstablish collection at Millicent libraryProvide information on climate change/adaptation <ul style="list-style-type: none">Develop Program for Public Information (CRS)Promote the plan and Town's eligibility for grantsDevelop pre-storm PSAs on evacuation, shelters, re-entry, repair/rebuilding, generator safety, etc.

Mitigation Strategy Development	
<ol style="list-style-type: none">Mission StatementMitigation GoalsReview Possible Mitigation ActionsSelection and Prioritization of Mitigation Actions	

Draft Mission Statements	
<ol style="list-style-type: none">Reduce risk to people and property from natural hazards.Enhance Fairhaven's resiliency to natural hazards and a changing climate.Protect the health, safety, and welfare of Fairhaven residents and the Town's built and natural features by reducing the long-term risk of natural hazards and a changing climate.Build the capacity of the Town of Fairhaven to prepare for, mitigate against, recover from, and more successfully adapt to natural hazards and a changing climate.Reduce the impact of natural hazards and a changing climate on Fairhaven's residents, businesses, facilities, and services through improved disaster preparedness and risk reduction strategies.Increase the resilience and sustainability of Fairhaven's built and natural environments, economy, and quality of life by making essential investments in hazard mitigation and climate adaptation.	

Draft Mitigation Goals	
Goal #1	Invest in improvements to critical facilities and infrastructure that will protect the Town from the impacts of natural hazards and a changing climate.
Goal #2	Identify and implement structural hazard mitigation and climate adaptation projects with the support of state and federal grant funding.
Goal #3	Enact non-structural planning and policy measures to prevent or reduce the impacts of identified hazards, with special emphasis on promoting nature-based solutions.
Goal #4	Conduct public education and outreach activities to better inform people about hazard risks and the steps they can take to prepare for and reduce their impact.
Goal #5	Support Town staff participation in training and exercise programs to better prepare the Town to respond to, mitigate against, and recover from emergencies and disasters.
Goal #6	Develop additional resources to build the Town's capacity to routinely update and implement a comprehensive hazard risk reduction program.

Mitigation Actions	
<p>Possible Mitigation Activities</p> <ul style="list-style-type: none">Local Plans and RegulationsStructure and Infrastructure ProjectsNatural Systems ProtectionEducation and Awareness Programs	

Possible Mitigation Activities	
<p>Local Plan and Regulations – <i>government authorities, policies, or codes that influence the way land and buildings are developed and built.</i></p> <ul style="list-style-type: none">Floodplain regulationsCoastal setbacks/erosion regulationsMaster plansLand use ordinancesSubdivision regulationsDevelopment reviewBuilding codes and enforcementNFIP Community Rating SystemCapital improvement programsOpen space preservationStormwater management regulations	

Possible Mitigation Activities

Structure and Infrastructure Projects – *modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. Also involves constructing new manmade structures to reduce hazard risks.*

- Acquisitions and elevations of structures in flood prone areas
- Utility undergrounding
- Structural retrofits and upgrades
- Seawalls, floodwalls, and retaining walls
- Detention and retention structures
- Storm drain improvements, culverts, and channel modifications



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Possible Mitigation Activities

Natural Systems Protection – *actions that minimize damage and losses and also preserve or restore the functions of natural systems.*

- Dune and coastal barrier protection
- Sediment and erosion control
- Stream corridor restoration
- Forest management
- Conservation easements
- Wetland restoration and preservation
- Natural area and functions protection



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Possible Mitigation Activities

Education and Awareness Programs – *actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.*

- Radio or television spots
- Library collections and websites with hazard maps and information
- Real estate disclosure
- Technical assistance on hazard mitigation
- Presentations to school groups or neighborhood organizations
- Mailings to residents in hazard-prone areas
- Participation in national risk awareness or emergency preparedness programs



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Other Types of Activities (not mitigation)

Emergency Preparedness

- Hazard warning systems
- Disaster response operations (including evacuation, sheltering, etc.)
- Backup power generation and supply (e.g., generators)
- Post-disaster recovery and mitigation actions



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Mitigation Actions

Some early ideas from LPT:

- Oxford Terrace generator – elderly housing, with large common area suitable to serving the Town and 1st Responders
- New First Responder Facility (fire and police)
- New EMA Clubhouse
- Rehab Rogers School (which is “rotting”)
- Pet-friendly shelters
- Quick connects and generators for Rec Center and Senior Center, and Housing Authority properties (see above). Address critical social vulnerabilities.
- Education and awareness (e.g. website/flyer, PSAs, etc.) on electrical/generator safety (homes and businesses)
- Outreach on seismic design/supply standards for large commercial facilities
- Outreach to farming community on climate change adaptation (beekeepers, etc.)
- Dealing with West Island residents who won’t evacuate. Many accept risks that they don’t fully understand, others feel they have no place to go (especially w/ pets). Delayed re-entry to island also another major disincentive to leave.



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Public Opinion Survey Results

Sample survey responses (*actions that Fairhaven should take to reduce hazard risk*):

- Mitigate isolation of residents in the event of flooding in low lying areas of Sconticut Neck Road.
- Develop an action plan for West Island in the event of a large scale event.
- Invest in green infrastructure and coastal conservation.
- Don’t build in wetland areas.
- Provide shelters for people impacted by storms or loss of utilities.
- Use Reverse 911 for community related incidents.
- Maintain trees. Add trees for wind protection.
- Protect the West Island Causeway.



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Selection of Mitigation Actions

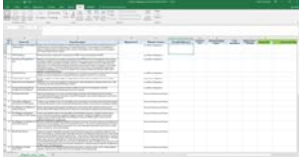
Review and Discuss **Mitigation Action Menu** (handout)


Currently includes **40 draft** actions for consideration:

- Local Plans and Regulations (7)
- Structure and Infrastructure Projects (8)
- Natural Systems Protection (5)
- Education and Awareness Programs (9)
- Emergency Preparedness (11)

What's missing?

- Please use **Mitigation Action Worksheet** to propose additional actions






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Mitigation Action Worksheet

Please send completed worksheets back to Darrin no later than **November 11th**



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Town of Fairbanks Hazard Mitigation Plan Mitigation Action Worksheet


Action Title: Provide brief summary of the proposed action in 10 words.	
Action Description: Describe proposed action in more detail. Will action be completed in the future? Will action be completed in the future?	
Hazard(s) Addressed: Indicate the hazard(s) the action will attempt to mitigate.	
Estimated Cost: Provide general estimate of cost. Indicate if cost is estimated or actual. If actual, provide actual cost.	
Lead Agency: Indicate the department or agency responsible for implementing the action.	
Partners: Indicate any supporting partners to help carry the action out.	
Potential Funding: Indicate any potential funding sources. If applicable.	
Comments: Include any general comments or anticipated date of completion.	
Priority: Indicate the action as a high, medium, or low priority.	
Worksheet Completed By:	

Prioritization of Mitigation Actions

Recommended Criteria:

1. Anticipated reduction in risk to life and/or property
2. Ease of implementation
3. Political and community support
4. General cost-effectiveness
5. Funding availability


High Priority	The most immediate, cost-effective and appropriate actions preferably to be accomplished in the short to mid-term (1-2 year) planning horizon.
Moderate Priority	Fairly urgent, cost-effective and appropriate actions but with some possible difficulties associated with implementation. Preferably accomplished in the mid to long-term (2-4 year) planning horizon.
Low Priority	Not urgent, but an action to be considered for implementation at some point over the long-term (4+ years) when implementation is deemed most appropriate.



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Plan Maintenance Procedures

- **Three Key Procedures:**
 1. Plan Implementation and Integration
 2. Monitoring, Evaluation, and Enhancement
 3. Continued Public Involvement
- **Early recommendations:**
 - Maintain the LPT as the Town's "Hazard Mitigation Planning Committee" (HMPC)
 - Annual HMPC Meeting and Progress Report (status updates for all proposed actions)
 - Specific time of year?
 - Use **Mitigation Action Tracker** for easy updates
 - Five-Year Plan Review and Update
 - Coordination with MEMA for technical and financial support
 - Post-Disaster Plan Review and Update





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Next Steps

- Complete + Submit Mitigation Action Worksheets by November 10th
- Review + Comment on Draft Plan Documents
- Schedule + Attend Final LPT Meeting

• *Gators upset Bulldogs?*





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AGENDA

Hazard Mitigation Plan Local Planning Team Meeting #5

Thursday, January 11, 2018 at 2:00 PM
Banquet Room

2:00 PM – 3:00 PM

1. Introductions
2. Overview of Final Draft Plan
3. Review and Prioritize Mitigation Actions
4. Review and Update Plan Maintenance Procedures
5. Next Steps

The purpose of this meeting is to reconvene Fairhaven's Local Planning Team (Town staff and invited stakeholders) to review and discuss the final draft plan document, with special emphasis on finalizing and prioritizing the list of proposed mitigation actions. Procedures for future implementation and maintenance of the plan will also be discussed. Following this meeting and a subsequent public meeting, the draft plan will be revised as needed for local approval and submitted to the Massachusetts Emergency Management Agency for their review.

Town of Fairhaven - Local Hazard Mitigation Plan

HMPC Public Meeting #3-mtg. #5

January 11, 2018

Name	Affiliation	Phone	E-mail
Bill Roth	Fairhaven Planning Dir.	508-977-4082	
Roger Gautreau	EMA		
Larry Ogata	EMA		
Mark Rees	Fairhaven Town ADM		wrees@fairhaven-ma.gov
Vince Fittado	BDW		
Wayne Foster	Business		

Town of Fairhaven
Local Hazard Mitigation Plan

January 11, 2018

Local Planning Team
Meeting #5





Agenda


1. Introductions

2. Overview of Final Draft Plan


3. Review and Prioritize Mitigation Actions


4. Review and Update Plan Maintenance Procedures

5. Next Steps



Planning Process





Final Draft Plan

Main Plan

1. Introduction

2. Planning Process

3. Community Profile

3. Mitigation Strategy

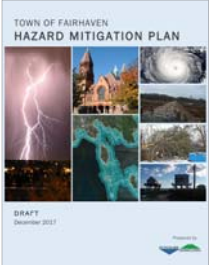
5. Plan Maintenance


Appendices

A. Hazard Analysis and Risk Assessment

B. Capability Assessment

C. Additional Documentation





Final Draft Plan (detailed outline)

1. Introduction

• Background

• Purpose

• Authority and Scope

• Plan Organization

2. Planning Process

• Overview

• Hazard Mitigation Planning Committee

• Public and Stakeholder Engagement

• Review of Existing Plans, Reports, and Other Relevant Information

3. Community Profile

• Location and History

• Geography and Climate

• Population, Demographics, and Housing

• Infrastructure and Environment

• Employment and Industry

• Land Use and Development Trends

4. Mitigation Strategy

• Overview

• Mitigation Goals

• Identification and Analysis of Possible Mitigation Measures

• Selection and Prioritization of Mitigation Actions

• Mitigation Action Plan (MAP)

5. Plan Maintenance

• Plan Implementation and Integration

• Monitoring, Evaluation, and Enhancement

• Continued Public Involvement

Appendix A: Hazard Analysis & Risk Assessment

• Overview

• Hazard Identification

• Hazard Profiles

• Vulnerability Assessment

• Summary Findings and Conclusions

Appendix B: Capability Assessment

• Overview

• Methodology

• Review of Existing Capabilities

• Previously Implemented Mitigation Measures

• Summary Findings and Conclusions


Appendix C: Additional Documentation

• Adoption Resolution

• Hazard Mitigation Planning Committee Meetings

• Public and Stakeholder Engagement Activities

• FEMA Regulation Checklist



Final Draft Plan

Plan Organization
summarized on pp. 5-6

Table of Contents

1. Introduction

2. Planning Process

3. Community Profile

3. Mitigation Strategy


5. Plan Maintenance

Appendices

A. Hazard Analysis and Risk Assessment

B. Capability Assessment

C. Additional Documentation



Risk Assessment Summary

HIGH RISK	Coastal Storm Coastal Flood Severe Winter Storm Severe Weather
MODERATE RISK	Fire Coastal Erosion and Sea Level Rise Riverine Flood
LOW RISK	Drought Earthquake Extreme Temperatures Urban Flood



Capability Assessment Summary

Capability Type	Overall Rating	Enhancement Opportunities
Planning & Regulatory	High Capability	<ul style="list-style-type: none">Integrate mitigation/adaptation into Master PlanStrengthen existing zoning & development regulationsPrepare post-disaster recovery planPrepare emergency evacuation & shelter plan
Administrative & Technical	Moderate Capability	<ul style="list-style-type: none">Submit application to join FEMA's CRS programDevelop tree preservation/maintenance planMaintain regular meetings of the Hazard Mitigation Planning CommitteeJoin the Massachusetts Statewide Mutual Aid AgreementSupport additional training and professional development for staffBuild local capacity and resources for internal GIS functions and services (versus contracting out)
Financial	Moderate Capability	<ul style="list-style-type: none">Continue pursuit of federal and state grantsConduct more detailed project scoping and benefit/cost analysis for mitigation projectsCoordinate with SRPEDD and neighboring communities on regional mitigation projects/activitiesAdvertise and promote availability of funds to assist property owners to reduce risk
Education & Awareness	Moderate Capability	<ul style="list-style-type: none">Develop hazard-specific flyers/brochuresPromote availability of flood insuranceEstablish collection at Millicent libraryProvide information on climate change/adaptationDevelop Program for Public Information (CRS)Promote the plan and Town's eligibility for grantsDevelop pre-storm PSAs on evacuation, shelters, re-entry, repair/rebuilding, generator safety, etc.

Mitigation Strategy

Mission Statement

Reduce the impact of natural hazards and a changing climate on Fairhaven's residents, businesses, facilities, and services through improved disaster preparedness and risk reduction strategies.

Goal #1	Invest in improvements to critical facilities and infrastructure that will protect the Town from the impacts of natural hazards and a changing climate.
Goal #2	Identify and implement structural hazard mitigation and climate adaptation projects with the support of state and federal grant funding.
Goal #3	Enact non-structural planning and policy measures to prevent or reduce the impacts of identified hazards, with special emphasis on promoting nature-based solutions.
Goal #4	Conduct public education and outreach activities to better inform people about hazard risks and the steps they can take to prepare for and reduce their impact.
Goal #5	Support Town staff participation in training and exercise programs to better prepare the Town to respond to, mitigate against, and recover from emergencies and disasters.
Goal #6	Develop additional resources to build the Town's capacity to routinely update and implement a comprehensive hazard risk reduction program.

Mitigation Strategy

Mitigation Action Plan

- 38 proposed actions
- Organized under five (5) categories:
 - Local Plans & Regulations
 - Structure & Infrastructure Projects
 - Natural Systems Protection
 - Education & Awareness
 - Emergency Preparedness

Description	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
1. Adopt a Hazard Mitigation Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2018-2020	High
2. Update the Town's Hazard Mitigation Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2020-2022	High
3. Conduct a Hazard Vulnerability Assessment	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2022-2024	High
4. Develop a Hazard Mitigation Action Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2024-2026	High
5. Implement the Hazard Mitigation Action Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2026-2028	High



Mitigation Strategy

Mitigation Action Plan Summary (pp. 73-77)

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
1	Adopt a Hazard Mitigation Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2018-2020	High
2	Update the Town's Hazard Mitigation Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2020-2022	High
3	Conduct a Hazard Vulnerability Assessment	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2022-2024	High
4	Develop a Hazard Mitigation Action Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2024-2026	High
5	Implement the Hazard Mitigation Action Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2026-2028	High



Mitigation Strategy

Mitigation Action Tracker (MS Excel spreadsheet)

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
1	Adopt a Hazard Mitigation Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2018-2020	High
2	Update the Town's Hazard Mitigation Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2020-2022	High
3	Conduct a Hazard Vulnerability Assessment	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2022-2024	High
4	Develop a Hazard Mitigation Action Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2024-2026	High
5	Implement the Hazard Mitigation Action Plan	1	Local Plans & Regulations	Coastal Storm, Coastal Flood, Severe Weather	\$0	State, Federal	Planning & Regulatory	2026-2028	High

Prioritization of Mitigation Actions

Prioritization Criteria:

1. Anticipated reduction in risk to life and/or property
2. Ease of implementation
3. Political and community support
4. General cost-effectiveness
5. Funding availability

High Priority	The most immediate, cost-effective and appropriate actions preferably to be accomplished in the short to mid-term (1-2 year) planning horizon.
Moderate Priority	Fairly urgent, cost-effective and appropriate actions but with some possible difficulties associated with implementation. Preferably accomplished in the mid to long-term (2-4 year) planning horizon.
Low Priority	Not urgent, but an action to be considered for implementation at some point over the long-term (4+ years) when implementation is deemed most appropriate.

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Plan Maintenance

- **3 key procedures:**
 1. Plan Implementation and Integration
 2. Monitoring, Evaluation, and Enhancement
 3. Continued Public Involvement
- **Key elements of proposed approach:**
 - Overall responsibility remains with Planning & Economic Development Director
 - Use *Mitigation Action Tracker* for easy updates, at least twice per year
 - Maintain the Town's "Hazard Mitigation Planning Committee" (HMPC)
 - Annual HMPC Meeting and Progress Report (status updates for all proposed actions)
 - Conduct meeting in the fall of each year
 - Five-Year Plan Review and Update
 - Coordination with MEMA for technical and financial support
 - Conduct public outreach and engagement, similar to plan development process
 - Post-Disaster Plan Review and Update
 - Be opportunistic as it relates to plan integration and continued public involvement

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Next Steps

- **YOU:** Review + Comment on Draft Plan Documents by January 31st
 - Focus special attention on Mitigation Action Plan (pp. 34-72), especially any actions that are assigned to your department or agency
 - Please send all questions, comments, or revisions to Bill Roth
 - Feel free to contact Darin directly at darin@punchardconsulting.com or 617-777-2001
- **ME:** Create Final Plan!
 - Update Mitigation Action Plan (funding sources, priorities, etc.)
 - Update Risk Assessment with "new" climate projections for MA
 - Address any additional comments/revisions for local approval of Final Plan
- Final Plan will be completed + submitted to MEMA for review in February

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C.2. PUBLIC AND STAKEHOLDER ENGAGEMENT ACTIVITIES

- Public Engagement Strategy
- Screenshots of Project Websites
- Project Fact Sheet
- Press Releases
- Media Articles
- Public Meeting Notices/Advertisements
- Public Meeting Sign-in Sheets
- Public Meeting Presentation Slides
- Postcard Notifications (Public Opinion Survey)
- Public Opinion Survey
- Public Opinion Survey Results

Local Hazard Mitigation Plan

Town of Fairhaven, Massachusetts

Public Engagement Strategy

January 12, 2017

Fairhaven is vulnerable to a range of natural hazards that have the potential to cause property damage, loss of life, service disruption, economic hardship, and other adverse impacts to our community. These hazards include but are not limited to hurricanes, nor'easters, floods, severe winter storms, and other naturally occurring events that threaten our region. In recognition of these prevalent hazard threats, the Town of Fairhaven is developing a Local Hazard Mitigation Plan to help improve our community's preparedness for such events and to reduce our vulnerability to their potential impacts. The Public Engagement Strategy details ways to involve the public and key stakeholders throughout the planning process.

PUBLIC ENGAGEMENT STRATEGY SUMMARY

To generate public interest, solicit citizen input, and engage additional partners in the plan development process, this strategy has been developed. The strategy identifies specific opportunities and methods for citizens and targeted stakeholders to participate at various points in the planning process, including but not limited to in-person meetings, a project website, web-based surveys, and the use of social media.

LOCAL PLANNING TEAM

To coordinate the project with the Town, a Local Planning Team (LPT) has been formed. The LPT includes a steering committee made up of key Town staff that will provide overall executive direction for the project, as well as a broader stakeholder committee that includes a representative cross section of the community (as further described below). The LPT will meet a minimum of five times throughout the duration of the project. Each meeting provides an opportunity to gain valuable input from team members and to keep them apprised of project progress. The meeting schedule will cover the following key agenda items.

- Meeting #1: Assemble LPT for introduction and overview of the plan development process, including descriptions of individual roles and responsibilities of committee members. Facilitate initial hazard identification, needs assessments, and other data collection efforts to capture early input and ideas on all aspects of the plan development process. Solicit input on the draft public engagement strategy. Meeting scheduled for January 12, 2017.
- Meeting #2: Present and discuss public outreach and data collection and analysis efforts completed to date. Review and confirm the current inventory of best available data and information to support the hazard analysis and risk assessment and share initial hazard identification findings to date. Begin to solicit input from applicable team members on the capability assessment. Meeting scheduled for March 2017.
- Meeting #3: Review and discuss final risk assessment results, including hazard profiles, map figures, and vulnerability analyses. Share results of the capability assessment and capture additional input or adjust as required. Establish draft vision and goal statements for the plan based on the results of the risk and capability assessments and the public input received to date. Begin to review and discuss specific hazard mitigation actions for the Town to consider as part of its overall mitigation strategy. In addition, this

meeting will be divided into three separate breakout meetings with agendas that are primarily focused on three different key steps of the FEMA Community Rating System (CRS) 10-step planning process: assess the hazard; assess the problem; and set goals. These breakout meetings may or may not be held on the same day, but will be scheduled within the same general timeframe. Meeting(s) scheduled for April 2017.

- Meeting #4: Present initial draft plan. Review and discuss initial list of possible mitigation actions, assuring that specific hazard vulnerabilities or other hazard-related problems identified in the risk assessment are addressed. Review updated summary of public input received to date, particularly as related to hazard risks or mitigation needs/activities. Begin drafting mitigation action plans that align with established goal statements and specify required implementation procedures that include prioritizing, scheduling, and assigning resources and responsibilities for carrying each identified action out. Solicit initial input on plan maintenance procedures. Meeting scheduled for June 2017.
- Meeting #5: Present and discuss final draft plan document. Review and make final updates or revisions as required for committee approval and submission of final plan to MEMA and FEMA for their review. Meeting scheduled for July 2017.

STAKEHOLDER COMMITTEE

The Public Engagement Strategy includes the creation of a separate “Stakeholder Committee” that includes members of the Local Planning Team as well as additional Town staff, members of the public, and other stakeholders from outside Town government. This includes but is not limited to floodplain residents, representatives of neighborhood associations, local businesses, environmental groups or other non-profit organizations, real estate agents, insurance agencies, staff from other governmental entities, and others to be determined in coordination with the LPT during its first official meeting. These stakeholders will meet in conjunction with the Local Planning Team for all their meetings. Individual meetings may also be held with specific stakeholders as needed to gather data regarding hazard risk, capabilities and mitigation actions.

PUBLIC OUTREACH

Public engagement and outreach serves the purpose of sharing the project with the public and gathering information and opinions from them. It also satisfies FEMA requirements and maximizes CRS credit points. The public outreach process includes, at a minimum, a project fact sheet, stakeholder meetings, three open public meetings, a public opinion survey, a project website and media announcements. In addition, coordination with local and regional agencies involved in hazard mitigation activities or that have the authority to regulate development, neighboring communities, businesses, academia, and other private and non-profit interests identified as stakeholders or desired planning partners for this project will be involved. Targeted representatives from each of these sectors will be provided opportunities to participate in the planning process through invitations to attend LPT meetings, respond to web-based surveys, and through formal requests to review draft deliverables.

In terms of coordinating with other agencies, the Town and its consulting team will seek to maximize CRS credit points by developing and maintaining a list of those agencies and other qualifying organizations for us to contact and engage with as part of the Public Engagement Strategy (see Attachment A).

PROJECT FACT SHEET

A double-sided, one-page Project Fact Sheet will be developed to describe the plan update process and to solicit participation in the planning process. The Fact Sheet will also include information that will promote the project website and public opinion survey. The Fact Sheet will be available in print and in digital form to be downloaded from the project website.

PUBLIC MEETINGS

The Town and its consulting team will coordinate and conduct three in-person public outreach meetings to engage the public and targeted stakeholders. The public outreach meetings will be scheduled to coincide on the same days as LPT Meetings #1, #3, and #5 at appropriate locations to be determined by the Town. The meetings will be used to educate the community about existing natural hazard risks, as well as potential hazard mitigation and climate adaptation strategies, and to gain public feedback that will be used during the drafting of the actual Local Hazard Mitigation Plan. The Town and its consulting team will prepare press releases, flyers, media announcements and presentations for each meeting.

PUBLIC OPINION SURVEY

An online public opinion survey will be used so individuals throughout the Town can provide valuable information and feedback to the project team. The online survey will give individuals that were unable to attend the in-person meetings the opportunity to participate in the plan update process. Information from the online survey will allow the project team to better understand the types of hazards that most concern the public and the mitigation actions that are of interest. The survey will be hosted by Survey Monkey, an online survey tool, and made accessible through hyperlinks posted on the project website and the Town of Fairhaven website. Additionally, hard copies of the survey will be distributed at all in-person meetings.

PROJECT WEBSITE


The Town and its consulting will host and manage information related to the project, on a web page dedicated to the Town of Fairhaven (<http://www.jamiecaplan.com/projects/fairhaven>). Information will include the project timeline, a link to download the Project Fact Sheet, information on in-person public outreach meetings, a link to the public opinion survey, and draft plan update deliverables for review. The public and stakeholders will be encouraged to help promote the project website and add links connecting to it from their own websites.

MEDIA

To promote the plan update process (and related benefits, such as credit points under FEMA's CRS program) and to solicit participation of local citizens and targeted stakeholders, press releases and media alerts will be developed in coordination with the Town of Fairhaven to engage local media outlets, including local, regional, and/or ethnic newspapers, local, regional, and/or ethnic television/radio broadcasts (for public service announcements), and Internet/social media postings. The Town and its consulting team will work with the Town of Fairhaven to determine the appropriate local newspapers, radio stations, and television stations that are popular with residents to place public service announcements.

Screenshot of Project Website

Fairhaven, MA Hazard Mitigation Plan



To become better prepared and more resilient to potential emergencies and disasters, the Town of Fairhaven is developing its first-ever natural hazard mitigation plan.

Fairhaven is vulnerable to a range of natural hazards that have the potential to cause property damage, loss of life, service disruption, economic hardship, and other adverse impacts to our community. These hazards include but are not limited to hurricanes, nor'easters, floods, severe winter storms, and other naturally occurring events that threaten our region. In recognition of these prevalent hazard threats, the Town of Fairhaven is developing a hazard mitigation plan to help improve our community's preparedness for such events and to reduce our vulnerability to their potential impacts.

Ways to Participate

- Visit this web page often
- Download and review the [Fairhaven Hazard Mitigation Plan Fact Sheet](#)
- Participate in Public Meetings (scheduled tentatively for April and July)
- Complete the Public Opinion Survey (<https://www.surveymonkey.com/r/FairhavenMA>)
- Review the Draft Plan (tentatively scheduled for July 2017)

Project Materials

- [Fairhaven Hazard Mitigation Plan Fact Sheet](#)


Project in the News

- [January 13, 2017 South Coast Today](#)
- [December 28, 2016 South Coast Today](#)


For More Information

- For more information please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 Ext. 122 or billr@fairhaven-ma.gov.

Take the online survey!



Help us gather information to make Fairhaven a more resilient town.



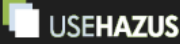
How Can We Help?

Have a question? Need emergency planning help?

CONTACT US

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Hazard Mitigation Planning Committee

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Contact:
William Roth

 Planning & Economic Development
 Director, EXT. 122

Darrin Punchard

Punchard Consulting LLC

Jamie Caplan

Jamie Caplan Consulting LLC

Address:

 40 Center Street
 Fairhaven, MA 02719

Phone:

508-979-4082, Ext. 9

Hours:

 Monday to Friday 8:30am -
 4:30pm

[Meeting Agendas](#)
[Meeting Minutes](#)

Hazard Mitigation Planning Documents

[Virtual Suggestion Box](#)
[Project Web Page](#)
[Public Opinion Survey](#)

Steering Committee

Name	Title	Term
William Roth	Planning Director	
Timothy Francis	Fire Chief	
Todd Correia	Deputy Fire Chief	
Wayne Fostin	Building Commissioner	
Vincent Furtado	BPW Superintendent	
Marc Jodoin	EMA Director	

Fairhaven Hazard Mitigation Plan

Under the direction of the Department of Planning & Economic Development, the Town has hired a consulting team to assist the Town in developing a Local Natural Hazards Mitigation Plan encompassing the entire Town of Fairhaven. The development of a Local Natural Hazards Mitigation Plan is essential to the Town's efforts towards improving the overall emergency preparedness and identifying ways to mitigate the impacts of future natural hazards. Upon completion the Hazard Mitigation Plan will be submitted to State and Federal plan

**Real Estate and
Relocation**

Tourism

**Community
Organizations**

reviewers for approval and then adopted by the Board of Selectmen. This planning process will take 18 months and is anticipated to conclude in May of 2018.

Plan Overview

The development of the Hazard Mitigation Plan is comprised of the following key task:

- Task 1. Planning Process
- Task 2. Hazard Analysis and Risk Assessment
- Task 3. Capability Assessment
- Task 4. Mitigation Strategy
- Task 5. Plan Maintenance Process
- Task 6. Plan Approval and Adoption

More Information

This page has been set up to provide an overview of the hazard mitigation planning process and detailed information about the plan and its individual elements. Here you can access the plan in electronic and downloadable formats as it evolves, gain a deeper understanding of Fairhaven's hazard mitigation issues by viewing maps, tables, and other data elements and provide crucial feedback to the Department of Planning & Economic Development and plan consultants. You may view more information about Hazard Mitigation Plan here and on the [Project Web Page](#) button above.

[Website Disclaimer](#)

40 Center Street, Fairhaven, MA 02719
ph: 508.979.4023 **fx:** 508.979.4079
Virtual Towns & Schools Website

[Privacy Statement](#)



FAIRHAVEN HAZARD MITIGATION PLAN

Planning for a Safer Future

To become better prepared and more resilient to potential emergencies and disasters, the Town of Fairhaven is developing its first-ever natural hazard mitigation plan. This fact sheet provides a brief description of the project, a summary of the key steps involved in the planning process and ways you can participate, and how to obtain additional information.

Project Overview

Fairhaven is vulnerable to a range of natural hazards that have the potential to cause property damage, loss of life, service disruption, economic hardship, and other adverse impacts to our community. These hazards include but are not limited to hurricanes, nor'easters, floods, severe winter storms, and other naturally occurring events that threaten our region. In recognition of these prevalent hazard threats, the Town of Fairhaven is developing a *hazard mitigation plan* to help improve our community's preparedness for such events and to reduce our vulnerability to their potential impacts.

What is hazard mitigation?

Hazard mitigation may be defined as any action taken to reduce or eliminate long-term risk to life and property from hazards. Mitigation actions are the things we do today to become better prepared and more protected in the future. They can include structural measures, such as strengthening a building to withstand high winds, or non-structural measures, such as increasing public awareness or creating a pre-disaster plan to avoid future damage or loss.

In 2015, the Town of Fairhaven's Planning and Economic Development Department applied to the Massachusetts Emergency Management Agency (MEMA) for a grant to develop a comprehensive natural hazard mitigation plan. Local communities with a state and federally-approved hazard mitigation plan are eligible and better positioned to receive additional grant funding through MEMA and

FEMA for mitigation projects. In 2016 the Town was awarded the planning grant from MEMA, and in turn hired a consultant team to assist with the plan development process. A draft plan is scheduled for completion by August 2017 and the Town hopes to have the final plan approved and adopted by December 2017.

Upon completion, Fairhaven's hazard mitigation plan will serve as a road map to planning for a safer future. As further described below it will include the identification, evaluation, and communication of natural hazard risks; an assessment of local capabilities to reduce those risks; a strategy for implementing practical hazard mitigation actions; and a process for maintaining the plan over time.

Planning Process

The hazard mitigation plan is being developed through a process consisting of six key steps as outlined below, including: (1) Project Initiation & Public Engagement Strategy; (2) Hazard Analysis & Risk Assessment; (3) Capability Assessment; (4) Mitigation Strategy; (5) Plan Maintenance Process; and (6) Documentation. The process will be facilitated by mitigation planning consultants and overseen by a Local Planning Team (LPT) established by the Town, with numerous opportunities for community members and other stakeholders to participate and provide input along the way.

Project Initiation & Public Engagement Strategy

The first step focuses on the organization of resources to help prepare the plan. This includes the collection of relevant data and information, as well as the creation of a local team of people to provide input and lend support throughout the planning process. This also includes preparing a strategy to generate public interest, solicit citizen input, and engage additional partners or stakeholders at various points in the process.

Hazard Analysis & Risk Assessment

This step includes the identification and detailed analysis of all potential natural hazards in Fairhaven. It involves the collection and review of best available data and information to determine the potential impacts of hazards on the people, economy, and built and natural environments of the community. The risk assessment identifies specific vulnerabilities that become the basis for evaluating and prioritizing risk reduction actions for the mitigation strategy.

Capability Assessment

The purpose of the capability assessment is to determine the Town's ability to effectively implement hazard mitigation measures. It includes the review of existing plans, policies, programs, or activities relevant to hazard risk, and an analysis of the Town's current capacity and resources to carry them out. The assessment helps to identify which types of mitigation actions are practical and achievable over time, as well as any opportunities to leverage or improve measures already in place.

Mitigation Strategy

The mitigation strategy serves as the blueprint for reducing Fairhaven's vulnerability to natural hazards. It includes the overall community goals, objectives, and specific mitigation actions required to achieve the vision of a more disaster resilient community. The mitigation strategy is based on the results of the risk assessment, capability assessment, and a thorough review of potential mitigation measures that include policies, projects, and other activities. It also includes a detailed implementation plan for carrying out each proposed mitigation action.

Plan Maintenance Process

The step includes the creation of a method and schedule for the Town to routinely monitor, evaluate, and update the plan after it becomes adopted. It also identifies ways the plan and its specific mitigation actions can be integrated into other existing plans and procedures. A key objective for the plan maintenance process is to ensure the plan remains a relevant and effective tool for the Town over the long-term, and within the Town's existing planning framework.



The Town's mitigation planning process includes a series of meetings for community members and other stakeholders to be involved.

Documentation

The final step includes the drafting of a complete plan document for review prior to moving forward with local plan approval and adoption procedures. Once a final draft plan is approved by the Local Planning Team, it will be submitted along with all other documentation required for review and approval by state and federal plan reviewers. Once these approvals are issued the Town proceed with local adoption of the final plan.

Public Participation

There are several ways for community members and other stakeholders to participate in the plan development process, including but not limited to:

- Public Meetings
- Public Opinion Survey
- Local Planning Team and Stakeholder Committee Meetings
- Draft Plan Reviews

For More Information

To learn more about this project, or to find out more details on how you can be involved, please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 ext. 122 or at broth@fairhaven-ma.gov. Additional information and regular updates through the duration of the project may be found on the project website at www.jamiecaplan.com/projects/fairhaven



William D. Roth, Jr.
Director

Town of Fairhaven

Department of Planning and Economic Development

Town Hall 40 Center Street Fairhaven, MA 02719

Telephone (508)-979-4082 FAX (508) 979-4087

FOR IMMEDIATE RELEASE

DATE: December 22, 2016

TO: Media Outlets

RE: TOWN OF FAIRHAVEN
HAZARD MITIGATION PLAN

CONTACT: William D. Roth, Jr.
Director of Planning & Economic Development
(508) 979-4082, Ext. 9

Public Meeting – Hazard Mitigation Plan (HMP)

In January 2017, the Town of Fairhaven is officially launching the process to develop a Local Hazard Mitigation Plan. This new plan is considered essential to the Town's efforts to improve emergency preparedness and identify ways to become less vulnerable to disasters caused by natural hazards. The Town's first Public Meeting will be on Thursday, January 12, 2017, at 6:30 at Town Hall, 40 Center Street, Fairhaven, MA.

The purpose of the local Hazard Mitigation Plan is to identify and assess the community's natural hazard risks and determine how to best minimize and manage those risks over time. All members of the community are invited and encouraged to attend to share ideas for reducing or eliminating the impacts of natural hazards such as hurricanes, floods, and severe winter storms. During the meeting, attendees will learn about the process for developing Fairhaven's hazard mitigation plan and how they can help in making the community more resilient to natural hazards.

The Planning and Economic Development Department will lead the planning process with assistance from Punchard Consulting LLC. An approved HMP will make the Town eligible for federal mitigation project funding through FEMA's Hazard Mitigation Assistance grant programs.

If you have any questions regarding the Public Meetings, or would like to learn about more ways you can participate in the development of the Town's first hazard mitigation plan, please contact Bill Roth, Director of Planning & Economic Development, by phone at (508-979-4082, ext.9) or by email at billr@fairhaven-ma.gov.



Fairhaven to develop a Hazard Mitigation Plan to tame weather events

Wednesday

Posted Dec 28, 2016 at 7:33 PM

Updated Dec 28, 2016 at 7:33 PM

By **Steve Urban**

Follow

FAIRHAVEN - To better fend off natural disasters and extreme weather events, the town is embarking on the creation of a FEMA-supported Hazard Mitigation Plan.

A program of the Federal Emergency Management Agency, the new plan is considered essential to the town's efforts to improve emergency preparedness and identify ways to become less vulnerable to disasters caused by natural hazards, " wrote Town Planner Bill Roth in his announcement.

The first meeting to begin the process will be Thursday, Jan. 12 at 6:30 p.m. at Town Hall.

Roth wrote, "The purpose of the local Hazard Mitigation Plan is to identify and assess the community's natural hazard risks and determine how to best minimize and manage those risks over time. All members of the community are invited and encouraged to attend to share ideas for reducing or eliminating the impacts of natural hazards such as hurricanes, floods, and severe winter storms."

Attendees will learn about the process for developing Fairhaven's Hazard Mitigation Plan and how they can help in making the community more resilient to natural hazards.

The Planning and Economic Development Department will lead the planning process with assistance from Punchard Consulting LLC. An approved HMP will make the town eligible for federal mitigation project funding through FEMA's Hazard Mitigation Assistance Grant programs, the announcement said.

"Mitigation planning is a key process used to breaking the cycle of disaster damage, reconstruction, and repeated damage," FEMA states on its website.

It adds, "State, tribal, and local governments" are engaging in planning to identify risks and vulnerabilities associated with natural disasters, and develop long-term strategies for protecting people and property from future hazard events."

FEMA requires state, tribal, and local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for HMA mitigation projects.

Those with questions regarding the public meetings, or who would like to learn about more ways to participate in the development of the town's first HMP, can contact Bill Roth, director of Planning & Economic Development, by phone at 508-979-4082, ext.9 or by email at

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Fairhaven Neighborhood News

Ad proof

Contact Beth David with approval or changes: 508-979-5593 • Fax: 508-991-5580

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Town of Fairhaven Notice of Public Meeting Hazard Mitigation Plan

The Town will hold a Public Meeting on January 12, 2017, at 6:30 p.m. at Town Hall. The purpose of the meeting will be to take public input on the development of a Local Hazard Mitigation Plan. This new plan is essential to the Town's efforts to improve emergency preparedness and identify ways to reduce or eliminate the impacts of natural hazards such as hurricanes, floods, and severe winter storms. This is the first meeting of an 8 month planning process. This meeting will be an overview of the entire planning process, followed by time for questions and general discussion. All members of the community are encouraged to attend and bring their local knowledge, concerns, and ideas to help Fairhaven become safer from natural hazards. For more information please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 Ext. 122 or billr@fairhaven-ma.gov.

One week: 1/5/17
1x2.25", \$45/week



Public Disaster Planning Meeting

January 12, 2016 6:30 pm-8:00 pm

Town Hall, 40 Center Street, Fairhaven, MA



Learn About Hazard Mitigation

Fairhaven is developing a **Local Hazard Mitigation Plan**. The plan is essential to the Town's efforts to improve emergency preparedness and identify ways to mitigate the impacts of natural hazards such as hurricanes, floods, and severe winter weather.

Share Your Ideas for Reducing Risk

An overview of the entire project will be provided at the meeting. There will be plenty of time for questions and general discussion.

Multiple Opportunities to Participate

On January 12th, the Town will also host initial meetings for its Local Planning Team and Stakeholder Committee, these meetings are open to the public.

For more information contact: Bill Roth, Director of Planning & Economic Development Phone: 508-979-4082 or Email: billr@fairhaven-ma.gov

Public Meeting on Hazard Mitigation Plan

January 12, 2017

6:30–8:00 P.M.

Town Hall, 40 Center Street, Fairhaven, MA

On January 12th, 2017, the Town of Fairhaven will hold its first Public Meeting on the development of a local **hazard mitigation plan**. This new plan is essential to the Town's efforts to improve emergency preparedness and identify ways to reduce or eliminate the impacts of natural hazards such as hurricanes, floods, and severe winter storms. It will be prepared over the course of 6-8 months, and upon completion, a draft plan will be submitted to the Massachusetts Emergency Management Agency and Federal Emergency Management Agency for review and approval.

The Public Meeting will begin at 6:30 P.M. with an overview of the entire planning process, followed by plenty of time for questions and general discussion. All members of the community are encouraged to attend and bring their local knowledge, concerns, and ideas to help Fairhaven become safer from natural hazards.

As part of the project kickoff events the Town will also be holding initial meetings for its Local Planning Team and Stakeholder Committee on the afternoon of January 12th, which are also open to the public.

For more information please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 Ext. 122.

AROUND TOWN HAPPENINGS

Rogers School Mtg

The Town of Fairhaven will hold a **Public Meeting at 6:30 p.m. on Thurs., 1/5, at Town Hall, 40 Center St., Fairhaven.** The purpose of the meeting will be for the Town's consultant, Kirk & Company to present an initial draft report with their preliminary findings about the potential future reuses of the Rogers School.

TM Deadlines

Deadline for articles for the Fairhaven Town Meeting in May is **Jan. 12 at 4 p.m. at the Selectboard office.** Contact the town clerk or the Selectboard's office for details on how to get an article on the warrant.

Christmas Tree PU

The town of Fairhaven will pick up Christmas trees from **Jan. 10-13.**

Christmas Tree Collection will be one day after your regular rubbish day. Place trees curbside by 7 a.m. on the day of pickup. Remove all ornaments and tinsel. Do not put in plastic bag.

Hazard Mitigation

The Town of Fairhaven is officially launching the process to develop a Local Hazard Mitigation Plan. This new plan is considered essential to the Town's efforts to improve emergency preparedness and identify ways to become less vulnerable to disasters caused by natural hazards. The Town's first Public Meeting will be on **Thurs., 1/12, at 6:30 at Town Hall, 40 Center St., Fairhaven, MA.**

Nomination papers

Nomination papers are available for candidates interested in running for office in Fairhaven. The annual town election will be held on Monday, April 3, 2017. The last day for requesting nomination papers is **Thurs., 2/9, at 5 p.m.** The last day for Town Meeting incumbents to file written requests for re-election is **Mon., 2/6, at 5 p.m.** The last day to file all nomination papers with the Town Clerk's Office is **Mon., 2/13, at 5 p.m.**

The last day for residents to register to vote in the town election is **Tues., 3/14.**

Papers for town-wide office require 50 certified signatures. Papers for Town Meeting Members require 10

certified signatures.

You may register to vote any day from 8:30 AM to 4:30 PM – Monday through Friday Mail-in Voter Registration Forms are available at the Town Clerk's Office, 40 Center St., Fairhaven, 508-979-4023, Ext. 3.

Cultural Council Awardees

The Fairhaven Cultural Council is pleased to announce the Fairhaven Local Cultural Council Grant award winners for 2017!

In addition to demonstrating compliance with Mass. Cultural Council and local grant project guidelines, winning projects demonstrated the most benefit to our community and specifically for residents of Fairhaven, providing opportunities for all ages to participate in a variety of arts and humanities areas.

Projects funded this year include NBAM/ArtWorks! Teen Internship Program, New Bedford Symphony's Learning in Concert program for East and Wood Elementary Schools, the Millicent Library's Summer Reading Kick-Off Concert with Jackson Gillman, Zeiterion Theater field trips for St. Joseph and East Fairhaven Schools, New Bedford Ballet in-school programs for East and Wood Elementary Schools, New Bedford Festival Theater's production of "My Fair Lady", transportation funding for Whaling Museum field trips for Fairhaven schools, Seaglass Opera's "Amoré" Gala Concert, and the Greater New Bedford Choral Society's 2017 concert season.

Support for the Local Cultural Council (LCC) grant program is provided annually by the Mass. Cultural Council as well as from the town of Fairhaven. Funding allotted by the town of Fairhaven is earmarked to support events that promote tourism and attract visitors to our local businesses

In 2017, town funds will be supporting the Whitfield-Manjiro Friendship Society's Manjiro Festival, North Fairhaven Improvement Association's Community Concert, Roger Tinknell's "From Ireland to America" at the Council on Aging, the Fairhaven Lions Club's "Family Ties/Honoring Our Elderly" Community Event, and the Fishing Heritage Center's "Work & Culture in the Fishing Industry: Three

Photography Exhibits".

Events and programs are offered at affordable or free ticket prices; many offer senior citizen discounts as well. Visit the Fairhaven council's blog at <http://fairhavenculturalcouncil.blogspot.com/> or Facebook page at <https://www.facebook.com/FairhavenCulturalCouncil> throughout the year for updates on when these projects will be taking place and links to more information.

The council is always interested in new members. If you are a resident of Fairhaven and would like more information about joining the council, contact chairperson Abigail Hevey at abigail.hevey@gmail.com.

Free presentation

Keeping the American Promise: Challenging Corporate Power and Money in Politics

SouthCoast Progressive Voices, along with co-sponsor Citizens for Economic Justice (both subcommittees of the Fairhaven UU church's Social Justice Committee), invites all to attend this free educational presentation at 7:00 PM Wednesday, January 11, 2017 in the Church Auditorium, 102 Green Street in Fairhaven.

The speaker will be Jeffrey D. Clements, Founder and President of American Promise; Former Massachusetts Assistant Attorney General; and author of the book "Corporations Are Not People: Reclaiming Democracy from Big Money and Global Corporations". This book has been deemed the definitive guide to overturning the Citizens United vs FEC Supreme Court decision and gaining control of the influence of money in our elections. Mr. Clements was CEJ's invited speaker last year to address students and the general public on this topic at The UMass Dartmouth School of Law.

This program ties in directly with the pressing social issue of our time: "escalating inequality". Please plan to come and hear this dynamic presentation by one of the more active advocates for us gaining back control of our democracy.

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NOTE: All legal notices are available on the Neighb News website, www.NeighbNews.com, under the "Legal Notices" tab on the top of the main page.

Legal ads are also available at
<http://masspublicnotices.org>, search for "Fairhaven Neighborhood News"

Town of Fairhaven Notice of Public Meeting Hazard Mitigation Plan

The Town will hold a Public Meeting on January 12, 2017, at 6:30 p.m. at Town Hall. The purpose of the meeting will be to take public input on the development of a Local Hazard Mitigation Plan. This new plan is essential to the Town's efforts to improve emergency preparedness and identify ways to reduce or eliminate the impacts of natural hazards such as hurricanes, floods, and severe winter storms. This is the first meeting of an 8 month planning process. This meeting will be an overview of the entire planning process, followed by time for questions and general discussion. All members of the community are encouraged to attend and bring their local knowledge, concerns, and ideas to help Fairhaven become safer from natural hazards. For more information please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 Ext. 122 or billr@fairhaven-ma.gov.

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You'll get it bright and early Thursday morning every week without even leaving your house, or stopping on your way to work.

FIREARMS SAFETY COURSE State approved for Mass. license to carry firearms or FID card. Call Phil Lacerda, 508-989-6093.

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Rich 508-400-5551.

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Fairhaven Meetings

Board of Appeals

Tues., 2/7, Town Hall, 6:00 p.m.

Board of Public Works

Mon., 1/9, Arsene St., 6 p.m.

Community Preserv. Com.

Thurs., 1/19, Town Hall, 6:30 p.m.

Conservation Commission

Mon., 1/30, Town Hall, 6:30 p.m.

Council on Aging

Mon., 1/9, Senior Center, 9 a.m.

Hazard Mitigation Planning

Thurs., 1/12, Town Hall, 1:30 p.m.

Hazard Mitigation Meeting

Thurs., 1/12, Town Hall, 3 p.m.

Planning Board

Tues., 1/10, Town Hall, 6:30 p.m.

Rogers School Meeting

Thurs., 1/5, Town Hall, 6:30 p.m.

School Committee

Wed., 1/11, FHS Library, 6:30 p.m.

Selectboard

Mon., 1/9, Town Hall, 6:30 p.m.

Town Meeting D/L

Deadline for Town Meeting articles
is January 12 at 4 p.m.

Acushnet Meetings

Selectboard

Mon., 1/9, Town Hall, 5 p.m.

Planning Board

Thurs., 1/26, Parting Ways, 6:30 p.m.

TIDE TABLE

US Army Corps of Engineers, Cape Cod
Canal/Wing's Neck

	Jan. 2017	HIGH		LOW	
		a.m.	p.m.	a.m.	p.m.
Thursday	5	0056	1317 0609	1835*	0142 1400
Friday	6	0151	1413 0722	1939*	0237 1458
Saturday	7	0248	1515 0829	2039*	0341 1608
Sunday	8	0352	1622 0942*	2144*	0455 1721
Monday	9	0454	1721 1100*	2249*	0558 1820
Tuesday	10	0547	1812 ----	2346*	0651 1913
		----	----	1257*	
Wednesday	11	0636	1901 ----	1358*	0743 2005
Thursday	12	0724	1951 0040*	1444*	0835 2058
Friday	13	0814	2042 0138*	1515*	0927 2149
Saturday	14	0903	2131 0232*	1543*	1016 2238
Sunday	15	0950	2219 0313*	1612*	1104 2327
Monday	16	1037	2308 0349*	1646*	1153 ----
Tuesday	17	1128	----	0426 1646	0019 1244
Wednesday	18	0001	1220 0509	1728	0112 1336

*= Predicted minus tides from -0.1 ft. to -1.0 ft.

**Predicted minus tides from -1.1 ft to -2.0 ft or more



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LEGAL NOTICE: HAZARD MITIGATION PLAN

JANUARY 5, 2017 BY NEIGHBNEWS2016

[LEAVE A COMMENT](#)

TOWN OF FAIRHAVEN

NOTICE OF PUBLIC MEETING

HAZARD MITIGATION PLAN

The Town will hold a Public Meeting on January 12, 2017, at 6:30 p.m. at Town Hall. The purpose of the meeting will be to take public input on the development of a Local Hazard Mitigation Plan. This new plan is essential to the Town's efforts to improve emergency preparedness and identify ways to reduce or eliminate the impacts of natural hazards such as hurricanes, floods, and severe winter storms. This is the first meeting of an 8 month planning process. This meeting will be an overview of the entire planning process, followed by time for questions and general discussion. All members of the community are encouraged to attend and bring their local knowledge, concerns, and ideas to help Fairhaven become safer from natural hazards. For more information please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 Ext. 122 or billr@fairhaven-ma.gov.

(1/5/17)

FILED UNDER: LEGAL NOTICES

Town of Fairhaven - Local Hazard Mitigation Plan

Public Meeting #1


January 12, 2017


Name	Affiliation	Phone	E-mail
Don Michael Gaultreau	Mass Maritime	(774) 328-1904	Michael.Gaultreau@maritime.edu
Wayne Hayward	Planning Board	508-525-0746	ghl@comcast.net
MARC JODOIN	EMA DIRECTOR	508-989-3879	
Steve Urbow	STANARD - Aries	508/979-4448	sunbow@S-T.com
Bill Reith	Finance - Planning DEPT.		
Jamie Caplan	Subcontractor		
Darin Funchard	PC	617/777/2001	
John Rogers	Fluor EM&A	508-965-1453	
Bob Espindola	Town Selectmen	774 263 1046	Sebetman bob@spindola.com @ Gmail.com

Town of Fairhaven
Local Hazard Mitigation Plan

January 12, 2017

Public Meeting #1






Getting Started Exercise

1. Who lives in the Town of Fairhaven?

2. What buildings, organizations and infrastructure do the people here rely on?

3. What weather related hazards impact these people and/or the buildings, organizations and infrastructure?

4. What can be done to lessen the impact of these hazards and to protect people and property?



Project Overview

Purpose

To help Fairhaven become **better prepared** and **more resilient** to potential emergencies and disasters

To identify and assess the community's **natural hazard risks** and determine how to best **minimize and manage** those risks over time

To make Fairhaven eligible and better positioned to receive federal grant funding for **mitigation projects** and other types of non-emergency disaster assistance

Hazard Mitigation

Any action taken to reduce or eliminate long-term risk to life and property from hazards.


Mitigation Planning

Engage the community and key stakeholders

Assess hazard risks and mitigation capabilities

Identify mitigation actions that lead to long-term risk reduction

Implement and maintain the plan



Mitigation Actions


Possible Mitigation Activities

1. Local Plans and Regulations

2. Structure and Infrastructure Projects

3. Natural Systems Protection

4. Education and Awareness Programs




Planning Process


6 Main Tasks / Key Steps

Public outreach and stakeholder engagement throughout

Seeking to maximize credit points under FEMA Community Rating System (CRS)

See *Fact Sheet* for summary info on key steps





Project Schedule

PROJECT TASKS	2016												2017												
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	
Task 1. Planning Process																									
1.1 Project Initiation																									
1.2 Develop Public Engagement Strategy																									
1.3 Planning Committee Meetings																									
1.4 Conduct Public Outreach																									
1.5 Document Planning Process																									
Task 2. Hazard Analysis and Risk Assessment																									
2.1 Data Collection and Analysis																									
2.2 Hazard Identification																									
2.3 Hazard Profiles and Mapping																									
2.4 Inventory of Community Assets																									
2.5 Vulnerability Assessment																									
2.6 Summarize Findings and Conclusions																									
Task 3. Capability Assessment																									
3.1 Review Existing Capabilities																									
3.2 Summarize Findings and Conclusions																									
Task 4. Mitigation Strategy																									
4.1 Develop Goals and Objectives																									
4.2 Analyze Mitigation Actions and Projects																									
4.3 Prepare Mitigation Action Plan																									
4.4 Complete Mitigation Action Prioritization																									
Task 5. Plan Maintenance Process																									
5.1 Develop Procedures for Monitoring/Evaluating/Updating																									
5.2 Develop Procedures for Implementation/Integration																									
5.3 Develop Procedures for Continued Public Involvement																									
Task 6. Plan Approval and Adoption																									
6.1 Acceptance of Planning Committee																									
6.2 Assist Town with Plan Approval																									
6.3 Assist Town with Plan Adoption																									

1

Planning Team

LOCAL PLANNING TEAM (LPT)

Steering Committee (Town Staff)

Planning & Economic Development
Emergency Management Agency
Building / Conservation
Public Works
Fire

Stakeholder Committee (Community Partners – Preliminary List)

Residents
Small Business Owners
Major Employers
Fairhaven Shipyard Company
Fairhaven Business Association
New Bedford Area Chamber of Commerce
Eversource Energy

Fairhaven Housing Authority
Local Realtor
Buzzards Bay Coalition
Fairhaven Improvement Association
North Fairhaven Improvement Assoc.
Planning Board (Chair)
Conservation Commission (Chair)

School Department
Recreation Department
Council on Aging
SRPEDO
Neighboring Town Representatives
State Agencies (MEMA, DCR)
Insurance Services Office (ISO)

7

Public Engagement Strategy

Objective



To generate public interest, solicit citizen input, and engage additional partners in the plan development process


Local Planning Team

Stakeholder Committee

Public Outreach

- Project Fact Sheet
- Public Meetings
- Public Opinion Survey
- Project Website
- Media





8

Next Steps

Review Project Fact Sheet

Public Meetings


- Tentatively scheduled for April and June

Public Opinion Survey Participation

Project Website

- <http://www.jamiecaplan.com/projects/fairhaven>

Review of Draft Plan




9

Town of Fairhaven
Local Hazard Mitigation Plan


January 12, 2017

Thank you!

New England
Hurricanes
Happen!



Fairhaven, 1938



2



Work begins on Fairhaven's Hazard Mitigation Plan

Thursday

Posted Jan 12, 2017 at 8:39 PM

Updated Jan 12, 2017 at 8:39 PM

By **Steve Urbon**

Follow

FAIRHAVEN - The town got the ball rolling on a Hazard Mitigation Plan to lessen the danger and damage by naturally occurring events such as hurricanes, winds, floods and fires.

A pair of consultants hired with federal grant money from the Massachusetts Emergency Management Agency met in three meetings Thursday.

The first was the core group of town planners, department heads with a direct hand in dealing with tough situations.

The second mid-afternoon meeting, not promoted to the press, was essentially a private meeting with some of the "stakeholders," any group, individual organization or business with an interest in damage mitigation and recovery.

Thursday evening came the first of three "public meetings," in which residents were encouraged to bring their concerns and wishes about natural disaster. Only a half dozen including three town officials, attended the meeting at Town Hall (the next will be held in April).

Jamie Caplan of Jamie Caplan Consulting, and Darrin Punchard of Punchard Consulting, spelled out the process that will next include data mining of existing things such as flood maps. It became clear that the recall of town residents about the history of the town will play an important role, since they made an impression at the time. Hurricane Bob, for instance.

Town Planner William Roth, who chaired the meeting, spoke with approval of a Federal Emergency Management Agency called "Community Rating System," which calculates a score for the community. The attraction, Roth said, is that property owners can get from 5 percent to 10 percent off their flood insurance premiums. He said that the CRS is separate from the Hazard Mitigation but can be done in parallel.

He also said that the town's own master plan work begins later this year, and could be worked into the Hazard Mitigation Plan.

A finished report will be available in July, said Caplan.

The hazard report will first go to the state, then to FEMA, assuming it is approved. FEMA will then look at it as the town's intention to help itself, and will make grant money available for mitigation measures identified in the report.

Selectman Robert Espindola attended the meeting as an audience member, and asked the consultants to come up with a simpler explanation for this process and what is in it for various types of businesses, organizations and individuals.

A web site has been established to provide all the information about the project:

.....
Follow Steve Urbon on Twitter

FOR IMMEDIATE RELEASE

PUBLIC MEETING ON HAZARD MITIGATION PLAN

Residents and other community stakeholders are invited to participate in the Town of Fairhaven's 2nd Public Meeting regarding the development of a new Hazard Mitigation Plan. The meeting will take place on **June 7, 2017 from 6:30 pm – 8:00 pm at the Town Hall**, 40 Center Street, Fairhaven, MA. The plan is essential to the Town's efforts to identify ways to lessen the impacts of natural hazards such as hurricanes, flooding, and severe winter weather. **All community members are welcome and encouraged to attend!**

During this public meeting, preliminary results of the risk assessment will be shared and the identification of risk reduction goals and strategies will be discussed. Plenty of time will be available to capture feedback and additional input from attendees. Prior to adjourning the meeting, a raffle will be held for a copy of *The Great Hurricane – 1938*, a riveting account of one of the worst storm to strike New England, written by Cherie Burns.

Town residents are also encouraged to participate in the ongoing Public Opinion Survey to share their thoughts and input during the plan development process. The information provided will help the Town to better understand individual and unique hazard concerns in the community and can lead to mitigation activities that should help lessen the impacts of future disasters. Participation in this survey is voluntary and none of the information provided will be attributed to anyone directly.

To participate in the survey, please visit the Town's website at:

<http://www.fairhaven-ma.gov/Pages/index>

To learn more about the project, please visit the project web page at:

<http://www.jamiecaplan.com/projects/fairhaven>

If you have any questions or would like to learn about more ways you can participate in the development of the Hazard Mitigation Plan, please contact Bill Roth, Director of Planning & Economic Development, by phone at (508) 979-4082, Ext. 9 or by email at billr@fairhaven-ma.gov.

**Town of Fairhaven
Notice of Public Meeting
Hazard Mitigation Plan**

The Town will hold a Public Meeting on June 7, 2017, at 6:30pm at Town Hall. The purpose of the meeting will be to provide updated information and capture additional public input on the development of the Town's Hazard Mitigation Plan. This new plan is essential to the Town's efforts to improve emergency preparedness and identify ways to reduce or eliminate the impacts of natural hazards such as hurricanes, floods, and severe winter storms. At this second public meeting, preliminary results of the risk assessment will be shared and the identification of risk reduction goals and strategies will be discussed. All members of the community are encouraged to attend and bring their local knowledge, concerns, and ideas to help Fairhaven become safer from natural hazards. For more information please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 Ext. 9 or billr@fairhaven-ma.gov. To learn more about this project and participate in the ongoing Public Opinion Survey, please visit the project website at <http://www.jamiecaplan.com/projects/fairhaven>.



JUNE 7, 2017 6:30PM-8:00PM

PUBLIC MEETING ON HAZARD MITIGATION PLAN

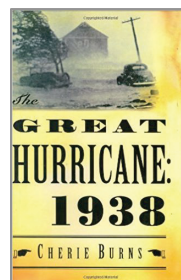
The development of Fairhaven's new Hazard Mitigation Plan is well underway. The plan is essential to the Town's efforts to identify ways to lessen the impacts of natural hazards such as hurricanes, flooding, and severe winter weather. During this second public meeting, the preliminary results of the risk assessment will be shared and the identification of risk reduction goals and strategies will be discussed.

Public Opinion Survey and Project Website

<http://www.jamiecaplan.com/projects/fairhaven>

Public Participation is Needed!

All meeting participants will be entered into a raffle to win a copy of the *Great Hurricane 1938* by Cherie Burns.



Town Hall
40 Center Street
Fairhaven, MA

June 7, 2017
6:30 pm – 8:00 pm

Hurricanes, Floods
and Winter Storms

Share Your Ideas for
Reducing Risk

Preparing a Hazard
Mitigation Plan for
FEMA Approval

FOR MORE INFORMATION PLEASE CONTACT:

Bill Roth
Planning & Economic
Development Director
Town of Fairhaven
508-979-4082 ext.9
billr@fairhaven-ma.gov

Public Meeting on Hazard Mitigation Plan June 7 • 6:30 p.m.–8 p.m.

Town Hall • 40 Center Street
Fairhaven, Mass.

**Hurricanes, floods & winter storms: Share
your ideas for reducing risk, preparing a
Hazard Mitigation Plan for FEMA approval**

The development of Fairhaven's new
Hazard Mitigation Plan is well underway.
The plan is essential to the Town's effort
to identify ways to lessen the impacts of
natural hazards such as hurricanes,

flooding, and severe winter weather.
During this second public meeting, the prelimi-
nary results of the risk assessment will
be shared and the identification of risk
reduction goals and strategies will be discussed.

Public Opinion Survey and Project Website:
<http://www.jamiecaplan.com/projects/fairhaven>
Public Participation is Needed!

All meeting participants will be entered into a
raffle to win a copy of the *Great Hurricane:*
1938, by Cherie Burns.



**For more information
please contact:**
Bill Roth, Planning & Economic Development
Director, Town of Fairhaven,
508-979-4082, Ext. 9
billr@fairhaven-ma.gov


Town of Fairhaven - Local Hazard Mitigation Plan
Public Meeting #2
June 7, 2017


Name	Affiliation	Phone	E-mail
Herde Pira			hpiva510@gmail.com
Kate Wickman	Resident / Senior }	Medical Reserve Corps	
Laura Francis		508 993 1219	
Wayne Hayward	Planning Board		
Bill Napoleone	SRPEDD	508 824-1367	bnape.srpedd.org
Bill Roth	Fairhaven P&C 2017		

Town of Fairhaven
Local Hazard Mitigation Plan

June 7, 2017

Public Meeting #2






Getting Started Exercise

1. Who lives in the Town of Fairhaven?

2. What buildings, organizations and infrastructure do the people here rely on?

3. What weather related hazards impact these people and/or the buildings, organizations and infrastructure?

4. What can be done to lessen the impact of these hazards and to protect people and property?



Project Overview

Purpose


- To help Fairhaven become **better prepared** and **more resilient** to potential emergencies and disasters
- To identify and assess the community's **natural hazard risks** and determine how to best **minimize and manage** those risks over time
- To make Fairhaven eligible and better positioned to receive federal grant funding for **mitigation projects** and other types of non-emergency disaster assistance

Hazard Mitigation

Any action taken to reduce or eliminate long-term risk to life and property from hazards.

Mitigation Planning


- Engage the community and key stakeholders
- Assess hazard risks and mitigation capabilities
- Identify mitigation actions that lead to long-term risk reduction
- Implement and maintain the plan




Planning Process

6 Main Tasks / Key Steps


- Public outreach and stakeholder engagement throughout
- Seeking to maximize credit points under FEMA Community Rating System (CRS)
- See *Fact Sheet* for summary info on key steps





Plan Development Process

PROJECT TASKS	2016												2017												
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	
Task 1. Planning Process																									
1.1 Project Initiation																									
1.2 Develop Public Engagement Strategy																									
1.3 Planning Committee Meetings																									
1.4 Conduct Public Outreach																									
1.5 Assemble Planning Process																									
Task 2. Hazard Analysis and Risk Assessment																									
2.1 Data Collection and Analysis																									
2.2 Hazard Identification																									
2.3 Hazard Profiles and Mapping																									
2.4 Inventory of Community Assets																									
2.5 Vulnerability Assessment																									
2.6 Summarize Findings and Conclusions																									
Task 3. Capability Assessment																									
3.1 Review Existing Capabilities																									
3.2 Summarize Findings and Conclusions																									
Task 4. Mitigation Strategy																									
4.1 Develop Goals and Objectives																									
4.2 Develop Mitigation Actions and Projects																									
4.3 Prepare Mitigation Action Plan																									
4.4 Complete Mitigation Action Prioritization																									
Task 5. Plan Maintenance Process																									
5.1 Develop Procedures for Monitoring/Evaluating/Updating																									
5.2 Develop Procedures for Implementation/Integration																									
5.3 Develop Procedures for Continued Public Involvement																									
Task 6. Plan Approval and Adoption																									
6.1 Acceptance of Planning Committee																									
6.2 Assist Town with Plan Approval																									
6.3 Assist Town with Plan Adoption																									



Project Status


Completed draft Risk Assessment and Capability Assessment deliverables

Public Opinion Survey

- 169 responses to date (launched in February)

Other sections of draft plan are in progress / near completion:

- Introduction
- Planning Process
- Community Profile



Planning Team

LOCAL PLANNING TEAM (LPT)

Steering Committee (Town Staff)

Planning & Economic Development
Emergency Management Agency
Building / Conservation
Public Works
Fire

Stakeholder Committee (Community Partners – Preliminary List)

Residents
Small Business Owners
Major Employers
Fairhaven Shipyard Company
Fairhaven Business Association
New Bedford Area Chamber of Commerce
Eversource Energy

Fairhaven Housing Authority
Local Realtor
Buzzards Bay Coalition
Fairhaven Improvement Association
North Fairhaven Improvement Assoc.
Planning Board (Chair)
Conservation Commission (Chair)

School Department
Recreation Department
Council on Aging
SRPEDD
Neighboring Town Representatives
State Agencies (MEMA, DCR)
Insurance Services Office (ISO)

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Public Engagement Strategy

Objective

To generate public interest, solicit citizen input, and engage additional partners in the plan development process

Local Planning Team

Stakeholder Committee

Public Outreach




Project Fact Sheet

Public Meetings

Public Opinion Survey

Project Website

Media



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Summary Conclusions

HIGH RISK	Coastal Storm Coastal Flood Severe Winter Storm Severe Weather
MODERATE RISK	Fire Coastal Erosion and Sea Level Rise Riverine Flood
LOW RISK	Drought Earthquake Extreme Temperatures Urban Flood

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Summary Conclusions

HAZARD	LOCATION	PROBABILITY	CATEGORY/DEGREE OF RISK				PRI VALUE
			POTENTIAL IMPACT*	WARNING TIME	DURATION		
Coastal Erosion and Sea Level Rise	Moderate	Highly Likely	Limited	More than 24 hours	More than 1 week	2.9	
Coastal Storm	Large	Possible	Catastrophic	More than 24 hours	More than 1 week	3.3	
Drought	Large	Possible	Minor	More than 24 hours	More than 1 week	2.2	
Earthquake	Large	Possible	Minor	Less than 6 hours	Less than 6 hours	2.2	
Extreme Temperatures	Large	Possible	Minor	More than 24 hours	1 to 7 days	2.1	
Fire	Moderate	Highly Likely	Limited	Less than 6 hours	6 to 24 hours	3.0	
Flood (3 Types):							
Riverine Flood	Small	Likely	Limited	More than 24 hours	1 to 7 days	2.7	
Coastal Flood	Large	Likely	Catastrophic	More than 24 hours	1 to 7 days	3.3	
Urban Flood	Small	Likely	Minor	Less than 6 hours	Less than 6 hours	2.1	
Severe Weather	Moderate	Highly Likely	Critical	Less than 6 hours	Less than 6 hours	3.3	
Severe Winter Storm	Large	Highly Likely	Critical	More than 24 hours	1 to 7 days	3.3	

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Public Opinion Survey

Public Opinion Survey Purpose

Participate in the mitigation planning process.

Measure public's experience with natural hazards.

Measure levels of awareness and preparedness.

Measure attitude toward hazard mitigation, including priorities for mitigating risk.

Distribution

Online through SurveyMonkey

Press Release – Newspaper



Websites

Social Media - Facebook

Postcard for Town Meeting

Hardcopy

Fairhaven, MA Hazard Mitigation Plan



To become better prepared and more resilient to potential emergencies and disasters, the Town of Fairhaven is developing its first ever natural hazard mitigation plan.

Fairhaven is vulnerable to a range of natural hazards that have the potential to cause property damage, loss of life, service disruption, economic hardship, and other adverse impacts to our community. These hazards include but are not limited to hurricanes, nor'easters, floods, severe winter storms, and other naturally occurring events that threaten our region. In recognition of these prevalent hazard threats, the Town of

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Public Opinion Survey Results

169 surveys completed

Majority have experienced natural hazards

Hurricane, Tropical Storm, Nor'easter, or Major Coastal Storm

Winter Storm

Severe Thunderstorm

Level of concern for natural hazards about the same as those experienced

Coastal Erosion, Flood, Sea Level Rise

How concerned are you about the possibility of climate change increasing your community's future risk to natural hazards?

Very Concerned 49%

Somewhat Concerned 34%

Not Concerned 17%

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Public Opinion Survey Results

- In general, mitigation activities fall into one of the following four broad categories. Please tell us how important you think each one is for your community to pursue.

	Very Important	\$
Local Plans and RegulationsThese actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	74.59% 91	
Structure and Infrastructure ProjectsThese actions involve modifying existing buildings and infrastructure or removing them from a hazard area. Structures such as drainage systems and flood walls are also considered here.	61.48% 75	
Natural Systems ProtectionThese are actions that minimize damage and losses by preserving or restoring the functions of natural systems (such as dunes, floodplains, and wetlands).	64.75% 79	
Education and Awareness ProgramsThese are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.	58.68% 71	

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Public Opinion Survey Results

- Which of the following actions do you think should be taken in order to reduce damage and disruption from hazard events within the Town of Fairhaven? Please rank each option as a high, moderate, or low priority.

	High Priority
Strengthen infrastructure such as roads, bridges, water/wastewater and electric power supply facilities	69.67% 85
Enhance or restore the capacity of natural features (dunes, floodplains, wetlands) to absorb impacts of natural hazards	54.55% 66
Install or improve protective structures such as dams, levees, flood walls, and bank stabilization projects	50.00% 61
Strengthen building codes and regulations to include higher standards for new development in known hazard areas	45.08% 55
Develop climate adaptation plans, policies or projects to minimize potential negative impacts from climate change	44.26% 54

Strengthen critical public facilities such as police, fire, schools, and hospitals	43.80% 53
Provide better public information about hazard risks and available mitigation measures	42.19% 51
Protect cultural and/or historic resources such as monuments, museums, historic landmarks, etc.	32.23% 39
Assist vulnerable property owners with securing funding for mitigation projects	29.75% 36
Acquire vulnerable properties from willing sellers, remove or relocate existing structures and maintain as open space	21.67% 26

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Public Opinion Survey Results

How prepared is your household to deal with a natural hazard event?

Answered: 118 Skipped: 51

Preparedness Level	Percentage
Very Prepared	~5%
Adequately Prepared	~35%
Somewhat Prepared	~40%
Not Prepared	~15%
Not Sure	~5%

Install smoke detectors and carbon monoxide detectors on each level of the house	96.64% 115
Store a fire extinguisher	80.83% 97
Receive first aid/CPR training	77.97% 92
Make a fire escape plan	68.91% 82
Identify and understand utility shutoffs	68.07% 81
Store a battery-powered radio	60.83% 73
Prepare a household/family emergency plan	48.70% 58

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Public Opinion Survey Results

In which neighborhood do you live now?

Answered: 91 Skipped: 78

Neighborhood	Percentage
Town Center	~35%
North Fairhaven	~30%
West Island	~10%
East Fairhaven	~15%
Sconticut Neck	~5%

What is the most effective way for you to receive information?

- Email/Electronic Newsletter
- Mail
- Internet
- Social Media
- Text Message
- Phone Call
- Newspaper
- Television
- Public Workshop
- Radio

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Mitigation Actions

Possible Mitigation Activities

- Local Plans and Regulations
- Structure and Infrastructure Projects
- Natural Systems Protection
- Education and Awareness Programs

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Public Opinion Survey Results


Individual responses – Actions that Fairhaven should take to reduce hazard risk:

- Mitigate isolation of residents in the event of flooding in low lying areas of Sconticut Neck Road.
- Develop an action plan for West Island in the event of a large scale event.
- Invest in green infrastructure and coastal conservation.
- Don't build in wetland areas.
- Provide shelters for people impacted by storms or loss of utilities.
- Use Reverse 911 for community related incidents.
- Have a real LEPC (Local Emergency Planning Committee)
- Maintain trees. Add trees for wind protection.
- Protect the West Island Causeway.

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Next Steps


- Review Project Fact Sheet
- Public Meetings
 - Tentatively scheduled for April and June
- Public Opinion Survey Participation
- Project Website
 - <http://www.jamiecaplan.com/projects/fairhaven>
- Review of Draft Plan




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Town of Fairhaven
Local Hazard Mitigation Plan

Thank you!



Fairhaven, 1938





William D. Roth, Jr.
Director

Town of Fairhaven

Department of Planning and Economic Development

Town Hall 40 Center Street Fairhaven, MA 02719

Telephone (508)-979-4082 FAX (508) 979-4087

FOR IMMEDIATE RELEASE

DATE: February 22, 2017

TO: Media Outlets

RE: TOWN OF FAIRHAVEN
HAZARD MITIGATION PLAN – PUBLIC OPINION SURVEY

CONTACT: William D. Roth, Jr.
Director of Planning & Economic Development
(508) 979-4082, Ext. 9

Public Opinion Survey – Disaster Prevention Planning

The Town of Fairhaven is developing a *Local Hazard Mitigation Plan*. The purpose of this plan is to identify and assess the Town's natural hazard risks (such as flooding, winter storms, hurricanes, and other severe weather events) and determine how to best minimize or manage those risks. **Public participation is essential!**

To help increase public participation the Town has launched a ***Public Opinion Survey*** that provides an opportunity for residents, business owners, and other community stakeholders to share their thoughts and input during the plan development process. The information provided will help the Town to better understand individual and unique hazard concerns in our community and can lead to mitigation activities that should help lessen the impacts of future disasters. Participation in this survey is voluntary and none of the information provided will be attributed to anyone directly.

To participate in the survey go to the Town's website at:

<http://www.fairhaven-ma.gov/Pages/index>

To learn more about the project, please visit the project web page at:

<http://www.jamiecaplan.com/projects/fairhaven>

You will find additional project information and a link to the web-based survey in both locations.

The public will have additional opportunities to participate in the development of the ***Local Hazard Mitigation Plan*** by attending public meetings and reviewing the draft plan. These opportunities will be announced in the coming months.

If you have any questions regarding the survey, or would like to learn about more ways you can participate in the development of the ***Local Hazard Mitigation Plan***, please contact Bill Roth, Director of Planning & Economic Development by phone at (508) 979-4082, Ext. 9 or by email at billr@fairhaven-ma.gov.



Town of Fairhaven
Department of Planning & Economic Development
Town Hall • 40 Center Street • Fairhaven, MA 02719
Tel. (508) 979-4082, Ext. 9 • FAX (508)-979-4087

MASTER PLAN and HAZARD MITIGATION PUBLIC OPINION SURVEY

The Town of Fairhaven is in the process of two very important planning projects: Fairhaven 2040-Master Plan and the Fairhaven Hazard Mitigation Plan. It is important for residents to take part in **BOTH** of these planning projects.

Fairhaven 2040 –Master Plan will help guide the Town in how we want to grow, develop and over the next two decades.

Fairhaven Hazard Mitigation Plan's purpose is to identify and assess the Town's natural hazard risks, (such as flooding, winter storms, hurricanes, and other severe weather events), and determine how to best minimize or manage those risks.

Having these plans will also help make Fairhaven eligible for Federal and State Grants. **Your** input is extremely important to us as we plan to meet the Town's needs. Please take a few minutes to answer the online surveys. Both surveys are available online at the Town's web site

<https://www.fairhaven-ma.gov>



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Department of Planning & Economic Development
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<https://www.fairhaven-ma.gov>

Postcard notifications for Public Opinion Survey that were mailed to all Town Meeting members (more than 400 residents)



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<https://www.fairhaven-ma.gov>

Fairhaven, MA Public Opinion Survey

Thank You for Your Assistance

The Town of Fairhaven is currently engaged in a planning process to become less vulnerable to disasters caused by natural hazards, and your participation is important to us!

The Local Planning Team is working on the Town's Hazard Mitigation Plan. The purpose of this plan is to identify and assess the Town's natural hazard risks (such as flooding, winter storms, hurricanes, and other severe weather events) and determine how to best minimize or manage those risks. Upon completion, this plan will be presented to the Town for adoption and submitted to the MA Emergency Management Agency (MEMA) and Federal Emergency Management Agency (FEMA) for review and approval.

This survey provides an opportunity for you to share your opinions and participate in the mitigation planning process. The information you provide will help us better understand your hazard concerns and can lead to mitigation activities that should help lessen the impacts of future disasters. Participation in this survey is voluntary and none of the information you provide will be attributed to you directly.

If you have any questions regarding this survey or would like to learn about more ways you can participate in the development of the Hazard Mitigation Plan, please contact Bill Roth at billr@fairhaven-ma.gov or 508-979-4082 ext.122.



Fairhaven, MA Public Opinion Survey

Natural Hazards

Tell us about your experiences and concerns involving natural hazards.

1. Have you ever experienced or been impacted by a natural hazard?

☐ Yes

☐ No

2. If yes, which of these hazards have you experienced or been impacted by? (Please check all that apply)

☐ Coastal Erosion

☐ Dam Failure

☐ Drought

☐ Earthquake

☐ Extreme Temperatures

☐ Flood

☐ Hurricane, Tropical Storm, Nor'easter, or other Major Coastal Storm

☐ Ice Storm

☐ Landslide

☐ Sea Level Rise

☐ Severe Thunderstorm, Tornado, or other Windstorm Event

☐ Wildfire

☐ Winter Storm

Other (please specify)

Fairhaven, MA Public Opinion Survey

3. How concerned are you about the following hazards?

	Very Concerned	Somewhat Concerned	Not Concerned
Coastal Erosion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earthquake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Temperatures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hurricane, Tropical Storm, Nor'easter, or other Major Coastal Storm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ice Storm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Landslide	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sea Level Rise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Severe Thunderstorm, Tornado, or other Windstorm Event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wildfire	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Winter Storm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. How concerned are you about the possibility of climate change increasing your community's future risk to natural hazards?

- ☐ Very Concerned
- ☐ Somewhat Concerned
- ☐ Not Concerned

5. Are there any natural hazards that were not listed above that you think should be considered in the Town's mitigation plan? If yes, please describe them below.

Fairhaven, MA Public Opinion Survey

Community Assets

In order to assess community hazard risk, we need to understand which community assets may be vulnerable. Community assets are features, characteristics, or resources that either make a community unique or allow it to function.

6. In your opinion, which of the following categories of assets are most vulnerable to natural hazards in your community? (Please rank the community assets in order of vulnerability, with 1 being the most vulnerable and 6 being least vulnerable.)



People (Loss of life and/or injuries, financial hardship, or other negative impacts to well-being)



Economic (Property damage, business interruptions/closures, job losses, etc.)



Infrastructure (Damage or loss of roads, bridges, utilities, schools, etc.)



Cultural/Historic (Damage or loss of libraries, museums, historic properties, etc.)



Environmental (Damage, contamination, or loss of water, trees, beaches, open space, etc.)



Governance (Ability to maintain order and/or provide public amenities and services.)

Mitigation and Preparedness Activities

Mitigation simply means to make something become less harsh or severe. Hazard mitigation is defined as any sustained action taken to reduce or eliminate long-term risk to life and property from hazards. It includes a variety of possible activities that can be implemented by public agencies, the private sector, or individuals.

7. In general, mitigation activities fall into one of the following four broad categories. Please tell us how important you think each one is for your community to pursue.

	Very Important	Somewhat Important	Not Important
Local Plans and Regulations These actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structure and Infrastructure Projects These actions involve modifying existing buildings and infrastructure or removing them from a hazard area. Structures such as drainage systems and flood walls are also considered here.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Natural Systems Protection These are actions that minimize damage and losses by preserving or restoring the functions of natural systems (such as dunes, floodplains, and wetlands).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education and Awareness Programs These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Which of the following actions do you think should be taken in order to reduce damage and disruption from hazard events within the Town of Fairhaven? Please rank each option as a high, moderate, or low priority.

	High Priority	Moderate Priority	Low Priority
Strengthen critical public facilities such as police, fire, schools, and hospitals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	High Priority	Moderate Priority	Low Priority
Strengthen infrastructure such as roads, bridges, water/wastewater and electric power supply facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protect cultural and/or historic resources such as monuments, museums, historic landmarks, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Install or improve protective structures such as dams, levees, flood walls, and bank stabilization projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strengthen building codes and regulations to include higher standards for new development in known hazard areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquire vulnerable properties from willing sellers, remove or relocate existing structures and maintain as open space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assist vulnerable property owners with securing funding for mitigation projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provide better public information about hazard risks and available mitigation measures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhance or restore the capacity of natural features (dunes, floodplains, wetlands) to absorb impacts of natural hazards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Develop climate adaptation plans, policies or projects to minimize potential negative impacts from climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Please briefly describe any specific actions that you think your community should take to reduce or eliminate the risk of natural hazards in your specific neighborhood or elsewhere in the community.

10. Have you or any local organizations in your community taken any actions to reduce or eliminate the risk of natural hazards? If yes, please explain.

Fairhaven, MA Public Opinion Survey

Personal Preparedness

11. How prepared is your household to deal with a natural hazard event?

- ☐ Very Prepared
- ☐ Adequately Prepared
- ☐ Somewhat Prepared
- ☐ Not Prepared
- ☐ Not Sure

12. In the following list, please check the activities that you have done, plan to do, have not done, or are unable to do for your household.

	Have Done	Plan to Do	Have Not Done	Unable to Do
Receive first aid/CPR training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a fire escape plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare a household/family emergency plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepare a disaster supply kit (extra food, water, first aid kit, medicines, and other emergency supplies)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Install smoke detectors and carbon monoxide detectors on each level of the house	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase and program a NOAA Weather Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Store a generator for backup power	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Store a battery-powered radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Store a fire extinguisher	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Store sand bags	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Have Done	Plan to Do	Have Not Done	Unable to Do
Purchase natural hazard insurance (flood, earthquake, wildfire, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Identify and understand utility shutoffs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anchor service utilities to your home (water heater, furnace, wood stove, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strengthened your home through mitigation retrofits or when your home was constructed. (This includes raising your home above flood level)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Do you have flood insurance?

- ☐ Yes
- ☐ No
- ☐ I don't know

14. If "No", why not?

- ☐ I don't live in a floodplain
- ☐ It's too expensive
- ☐ It never floods here
- ☐ My house is elevated
- ☐ I never considered it

Other (please specify)

Fairhaven, MA Public Opinion Survey

15. Do you live in Fairhaven, MA?

☐ Yes

☐ No

16. How long have you lived in Fairhaven?

☐ Less than 1 year

☐ 1-5 years

☐ 6-9 years

☐ 10-19 years

☐ 20 years or more

17. In which neighborhood do you live now?

☐ Town Center

☐ North Fairhaven

☐ West Island

☐ East Fairhaven

☐ Sconticut Neck

18. What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to natural hazards?

- ☐ Phone Call
- ☐ Email/Electronic Newsletter
- ☐ Newspaper
- ☐ Television
- ☐ Radio
- ☐ Internet (web pages)
- ☐ Internet (social media)
- ☐ Text message
- ☐ Mail
- ☐ Public workshop

Other (please specify)

19. Do you feel that information about the risk associated with natural hazards, and ways to reduce those risks, is readily available and easy to locate?

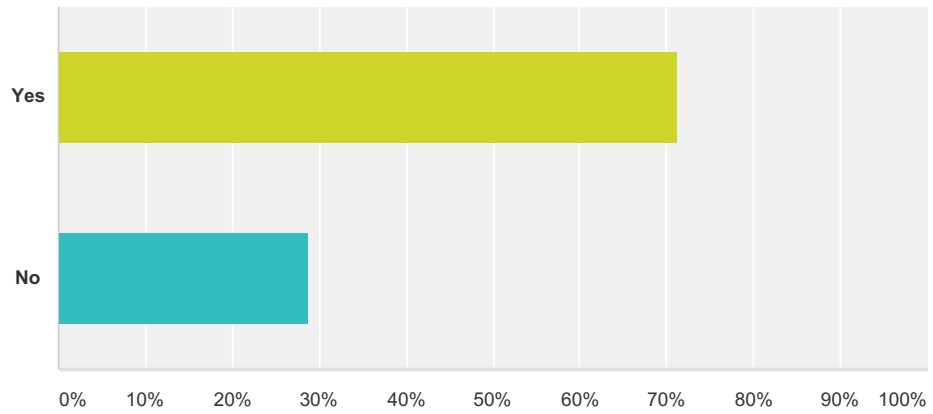
- ☐ Yes
- ☐ No
- ☐ I don't know

20. If you would like to be notified of future opportunities to participate in the plan update process, please provide us with your preferred email address below.

21. Thank you for taking the time to complete this survey! Your responses will be very helpful as we continue with the planning process. If you have any final comments, questions, or concerns to share with the Planning Team, please use the comment box below.

Q1 Have you ever experienced or been impacted by a natural hazard?

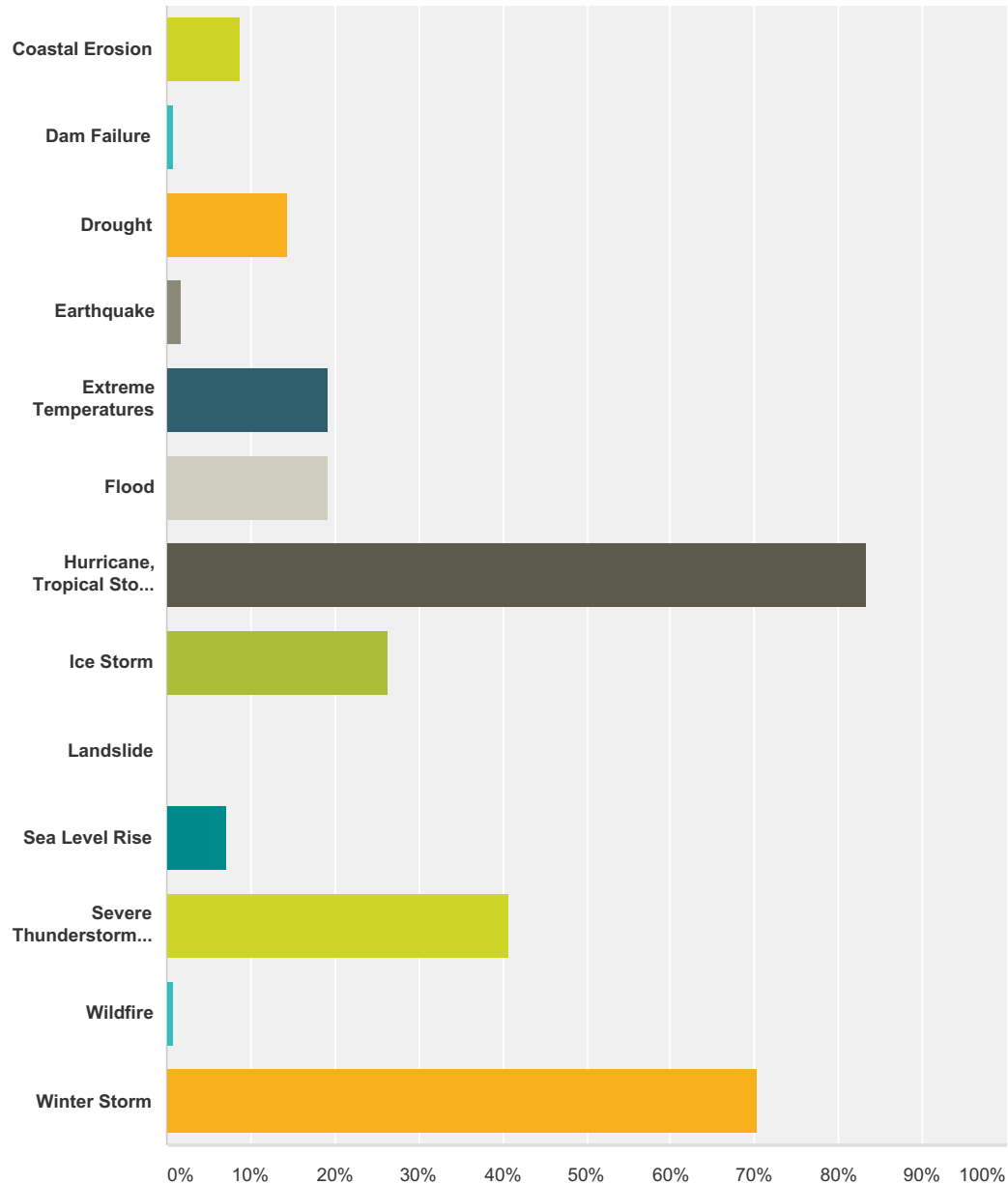
Answered: 170 Skipped: 2



Answer Choices	Responses	
Yes	71.18%	121
No	28.82%	49
Total		170

Q2 If yes, which of these hazards have you experienced or been impacted by? (Please check all that apply)

Answered: 125 Skipped: 47



Answer Choices	Responses	
Coastal Erosion	8.80%	11
Dam Failure	0.80%	1
Drought	14.40%	18
Earthquake	1.60%	2
Extreme Temperatures	19.20%	24

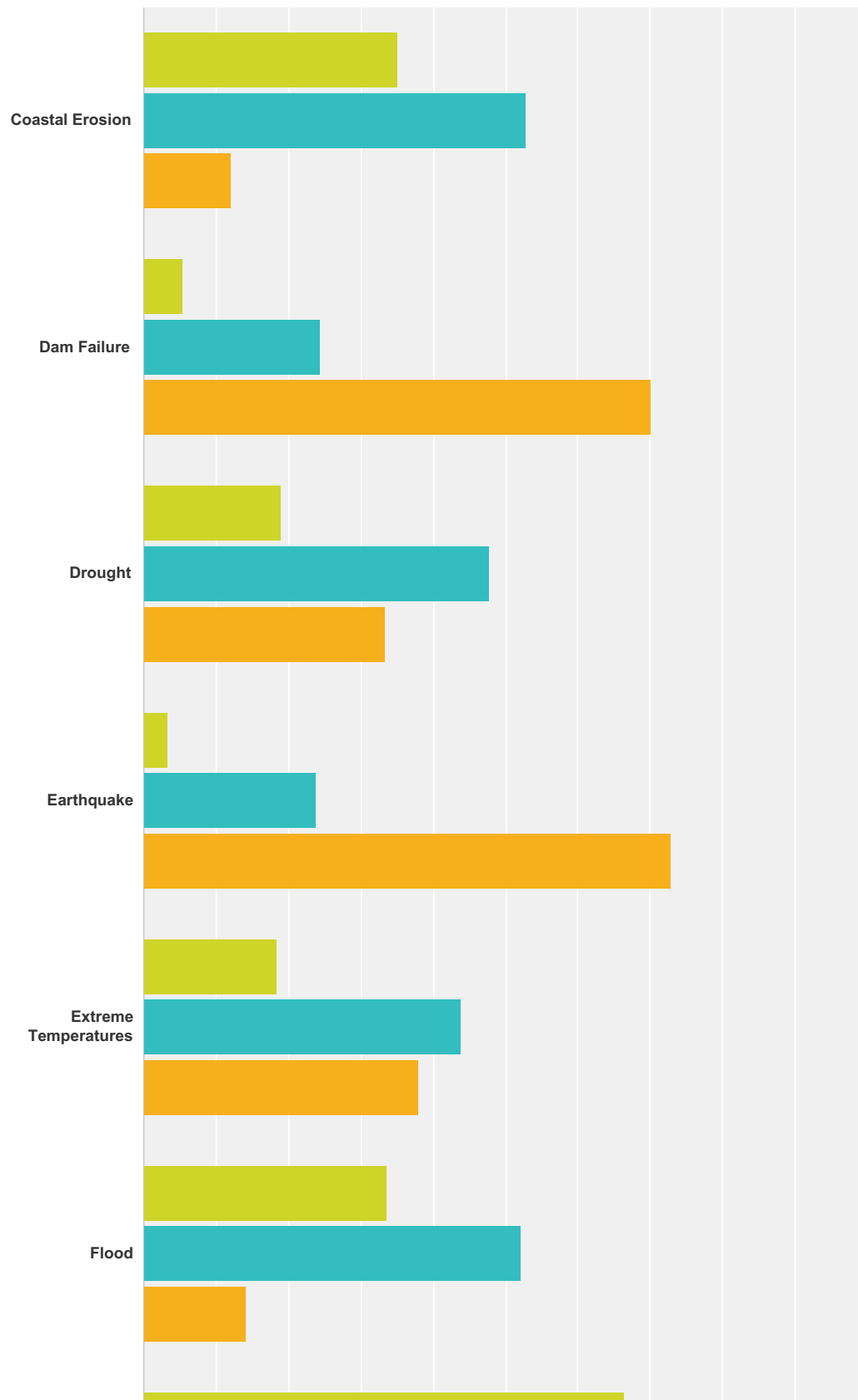
Fairhaven, MA Public Opinion Survey

Flood	19.20%	24
Hurricane, Tropical Storm, Nor'easter, or other Major Coastal Storm	83.20%	104
Ice Storm	26.40%	33
Landslide	0.00%	0
Sea Level Rise	7.20%	9
Severe Thunderstorm, Tornado, or other Windstorm Event	40.80%	51
Wildfire	0.80%	1
Winter Storm	70.40%	88
Total Respondents: 125		

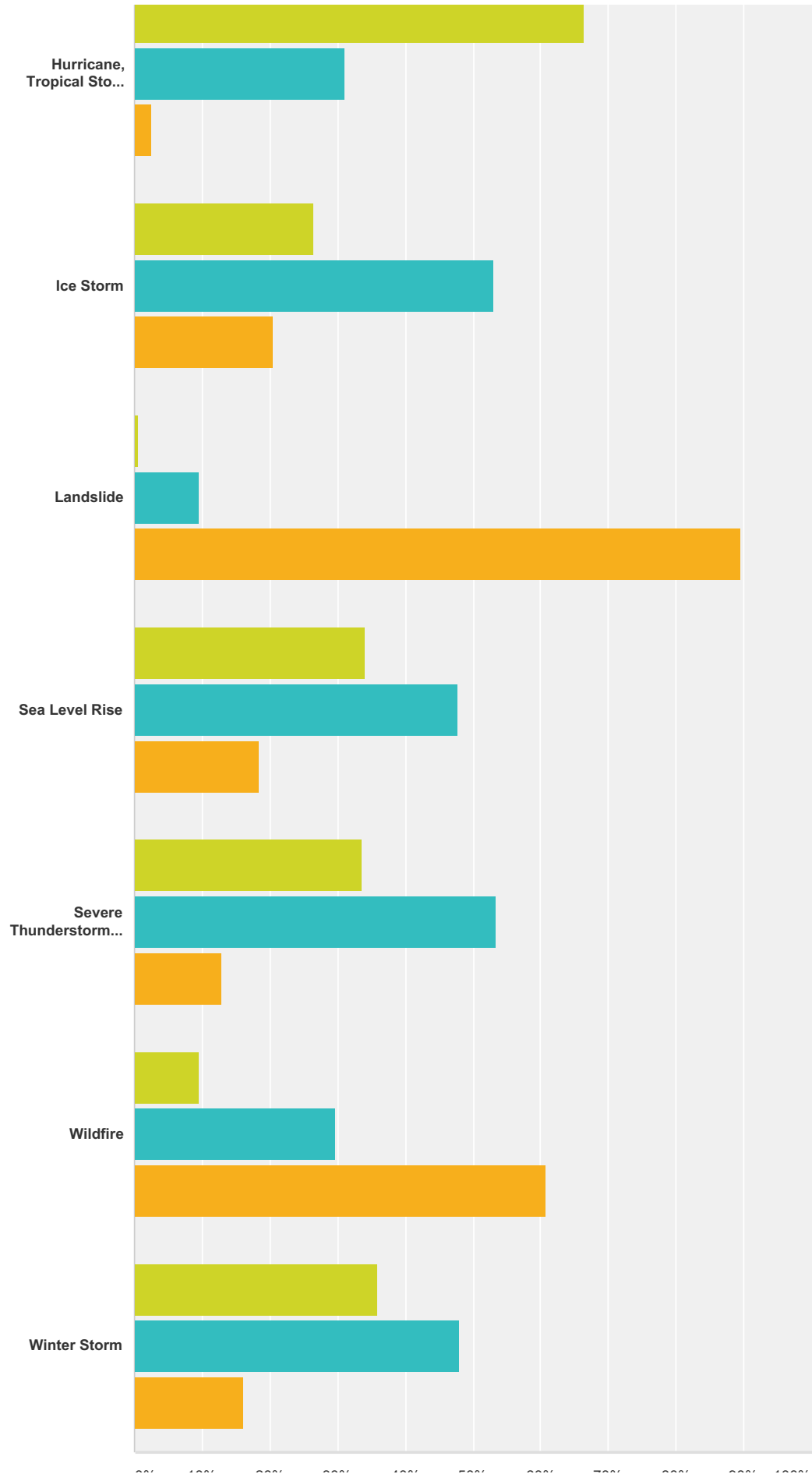
#	Other (please specify)	Date
1	This was in NH	3/19/2017 2:32 PM
2	We were only flooded because the hurricane barrier was inoperable during repairs	3/9/2017 7:59 PM
3	house fire	2/26/2017 12:41 AM

Q3 How concerned are you about the following hazards?

Answered: 162 Skipped: 10



Fairhaven, MA Public Opinion Survey



Fairhaven, MA Public Opinion Survey

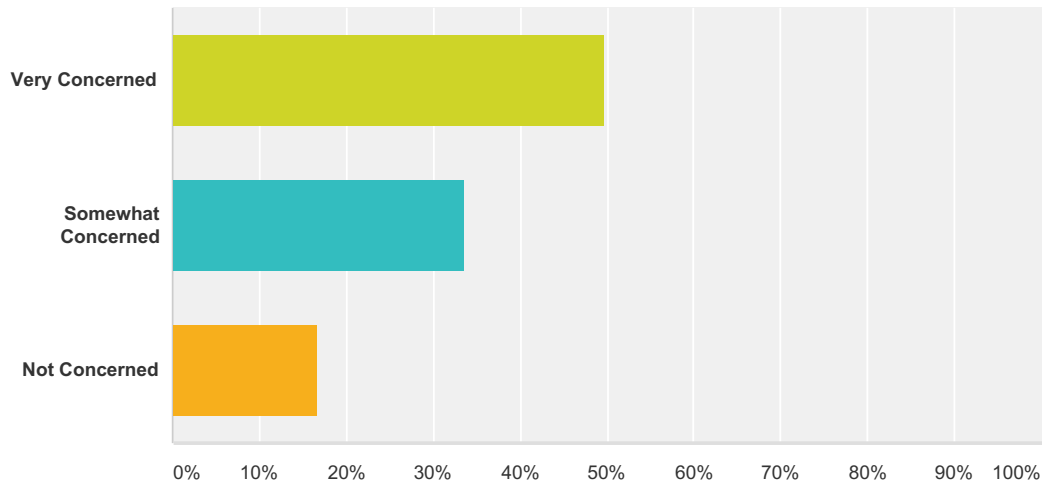
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Very Concerned Somewhat Concerned Not Concerned

	Very Concerned	Somewhat Concerned	Not Concerned	Total
Coastal Erosion	35.03% 55	52.87% 83	12.10% 19	157
Dam Failure	5.44% 8	24.49% 36	70.07% 103	147
Drought	18.95% 29	47.71% 73	33.33% 51	153
Earthquake	3.40% 5	23.81% 35	72.79% 107	147
Extreme Temperatures	18.30% 28	43.79% 67	37.91% 58	153
Flood	33.55% 52	52.26% 81	14.19% 22	155
Hurricane, Tropical Storm, Nor'easter, or other Major Coastal Storm	66.46% 107	31.06% 50	2.48% 4	161
Ice Storm	26.49% 40	52.98% 80	20.53% 31	151
Landslide	0.69% 1	9.66% 14	89.66% 130	145
Sea Level Rise	33.99% 52	47.71% 73	18.30% 28	153
Severe Thunderstorm, Tornado, or other Windstorm Event	33.55% 52	53.55% 83	12.90% 20	155
Wildfire	9.66% 14	29.66% 43	60.69% 88	145
Winter Storm	35.90% 56	48.08% 75	16.03% 25	156

Q4 How concerned are you about the possibility of climate change increasing your community's future risk to natural hazards?

Answered: 161 Skipped: 11



Answer Choices	Responses	
Very Concerned	49.69%	80
Somewhat Concerned	33.54%	54
Not Concerned	16.77%	27
Total		161

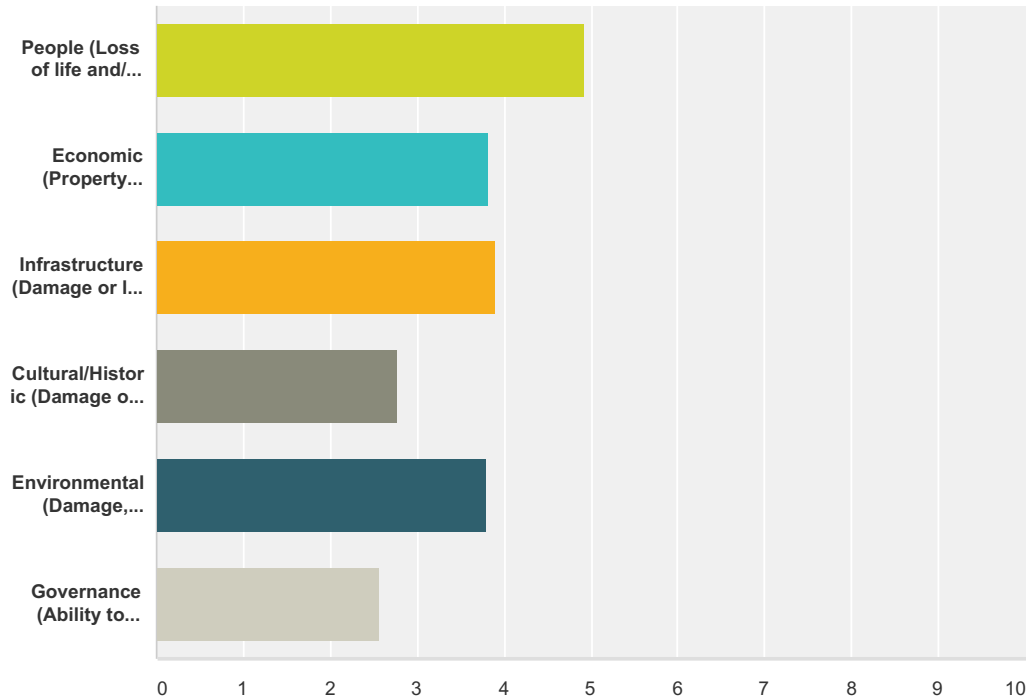
Q5 Are there any natural hazards that were not listed above that you think should be considered in the Town's mitigation plan? If yes, please describe them below.

Answered: 14 Skipped: 158

#	Responses	Date
1	Tsunami Hazard	6/8/2017 8:38 AM
2	Lime Disease	5/16/2017 4:32 PM
3	Cancer causing chemicals including PCBs that the Town of Fairhaven, including its Selectman, are permitting to be dumped into the town & its waterfront	5/1/2017 8:09 AM
4	Lyme ticks	4/21/2017 9:53 AM
5	events that would effect our water supply and delivery	4/6/2017 7:54 AM
6	diseases spread by tics & mosquitoes	4/4/2017 9:01 PM
7	none	3/21/2017 3:05 PM
8	The only thing is to consider the impact of natural hazards on infrastructure (i.e. Fairhaven / New Bedford Bridge) and how damage to that could impact the Fiarhaven community	3/21/2017 8:11 AM
9	No.	3/20/2017 2:56 PM
10	Trump	3/17/2017 10:13 PM
11	No	3/17/2017 1:02 PM
12	Diseases caused by ticks or other pests that are hard to control.	3/10/2017 8:04 AM
13	Tidal waves/ tsunamis	3/9/2017 12:05 PM
14	nuclear fallout	2/26/2017 12:43 AM

Q6 In your opinion, which of the following categories of assets are most vulnerable to natural hazards in your community? (Please rank the community assets in order of vulnerability, with 1 being the most vulnerable and 6 being least vulnerable.)

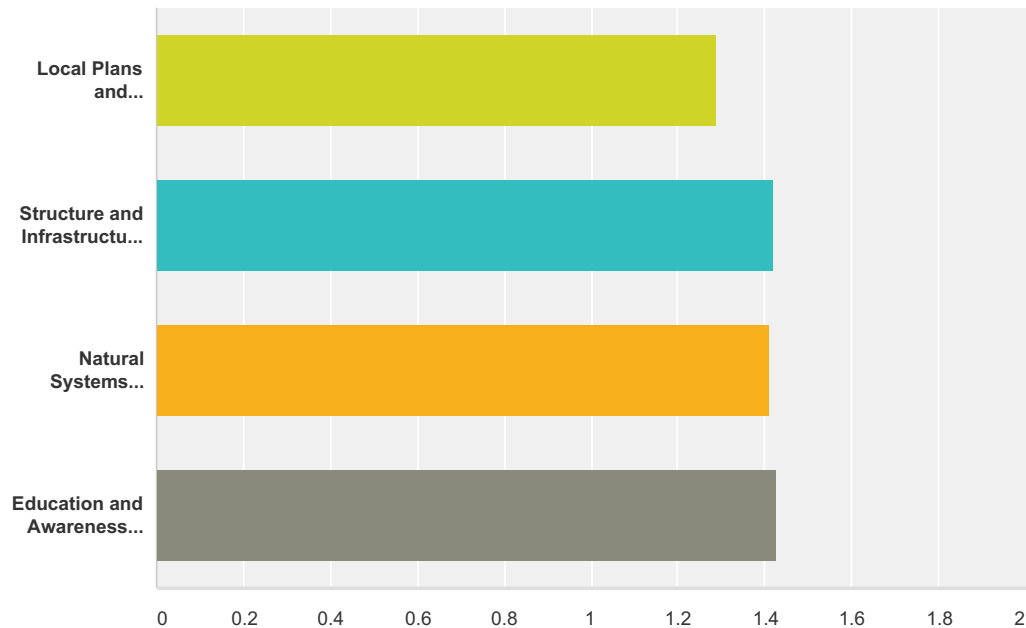
Answered: 144 Skipped: 28



	1	2	3	4	5	6	Total	Score
People (Loss of life and/or injuries, financial hardship, or other negative impacts to well-being)	59.65% 68	7.02% 8	14.04% 16	8.77% 10	7.02% 8	3.51% 4	114	4.93
Economic (Property damage, business interruptions/closures, job losses, etc.)	9.65% 11	32.46% 37	17.54% 20	20.18% 23	10.53% 12	9.65% 11	114	3.82
Infrastructure (Damage or loss of roads, bridges, utilities, schools, etc.)	10.26% 12	23.08% 27	28.21% 33	25.64% 30	11.97% 14	0.85% 1	117	3.91
Cultural/Historic (Damage or loss of libraries, museums, historic properties, etc.)	12.10% 15	6.45% 8	11.29% 14	14.52% 18	27.42% 34	28.23% 35	124	2.77
Environmental (Damage, contamination, or loss of water, trees, beaches, open space, etc.)	12.59% 17	24.44% 33	20.74% 28	20.00% 27	16.30% 22	5.93% 8	135	3.79
Governance (Ability to maintain order and/or provide public amenities and services.)	5.80% 8	10.87% 15	13.04% 18	11.59% 16	21.01% 29	37.68% 52	138	2.56

Q7 In general, mitigation activities fall into one of the following four broad categories. Please tell us how important you think each one is for your community to pursue.

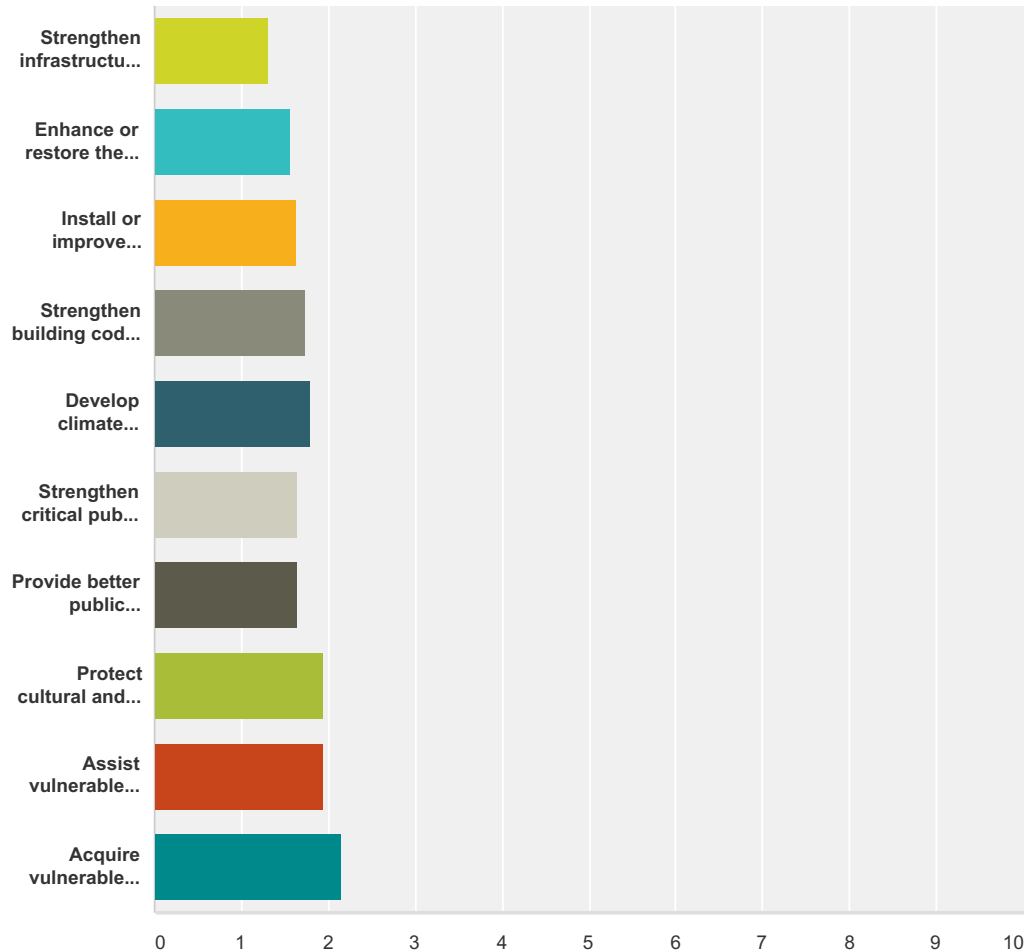
Answered: 125 Skipped: 47



	Very Important	Somewhat Important	Not Important	Total	Weighted Average
Local Plans and RegulationsThese actions include government authorities, policies, or codes that influence the way land and buildings are developed and built.	73.60% 92	24.00% 30	2.40% 3	125	1.29
Structure and Infrastructure ProjectsThese actions involve modifying existing buildings and infrastructure or removing them from a hazard area. Structures such as drainage systems and flood walls are also considered here.	62.40% 78	32.80% 41	4.80% 6	125	1.42
Natural Systems ProtectionThese are actions that minimize damage and losses by preserving or restoring the functions of natural systems (such as dunes, floodplains, and wetlands).	64.80% 81	29.60% 37	5.60% 7	125	1.41
Education and Awareness ProgramsThese are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them.	58.87% 73	39.52% 49	1.61% 2	124	1.43

Q8 Which of the following actions do you think should be taken in order to reduce damage and disruption from hazard events within the Town of Fairhaven? Please rank each option as a high, moderate, or low priority.

Answered: 125 Skipped: 47



	High Priority	Moderate Priority	Low Priority	Total	Weighted Average
Strengthen infrastructure such as roads, bridges, water/wastewater and electric power supply facilities	69.60% 87	28.80% 36	1.60% 2	125	1.32
Enhance or restore the capacity of natural features (dunes, floodplains, wetlands) to absorb impacts of natural hazards	54.03% 67	34.68% 43	11.29% 14	124	1.57
Install or improve protective structures such as dams, levees, flood walls, and bank stabilization projects	49.60% 62	39.20% 49	11.20% 14	125	1.62
Strengthen building codes and regulations to include higher standards for new development in known hazard areas	44.80% 56	36.00% 45	19.20% 24	125	1.74
Develop climate adaptation plans, policies or projects to minimize potential negative impacts from climate change	44.00% 55	32.80% 41	23.20% 29	125	1.79

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Strengthen critical public facilities such as police, fire, schools, and hospitals	43.55% 54	47.58% 59	8.87% 11	124	1.65
Provide better public information about hazard risks and available mitigation measures	42.74% 53	50.81% 63	6.45% 8	124	1.64
Protect cultural and/or historic resources such as monuments, museums, historic landmarks, etc.	31.45% 39	41.94% 52	26.61% 33	124	1.95
Assist vulnerable property owners with securing funding for mitigation projects	30.65% 38	44.35% 55	25.00% 31	124	1.94
Acquire vulnerable properties from willing sellers, remove or relocate existing structures and maintain as open space	21.95% 27	42.28% 52	35.77% 44	123	2.14

Q9 Please briefly describe any specific actions that you think your community should take to reduce or eliminate the risk of natural hazards in your specific neighborhood or elsewhere in the community.

Answered: 30 Skipped: 142

#	Responses	Date
1	Continue educational and planning incentives.	6/8/2017 8:43 AM
2	Make improvements, if possible, to mitigate the isolation of residents in the event of the flooding of low areas of Sconticut Neck Rd. that have been known to flood. Develop an Action Plan for the residents of West Island in the event of a large scale incident. Institute civil defense volunteer groups to assist police and fire in the event of a large scale event that will tax the resources of those departments.	5/16/2017 4:53 PM
3	Immediately halt any further dumping of PCBs in the Fairhaven harbor between Rt 6 Bridge and I-195 Bridge	5/1/2017 8:13 AM
4	public awareness	4/19/2017 7:38 PM
5	Appoint a full time conservation agent so that they can work to invest in green infrastructure and create a culture of conservation. Restore coastal plants to reduce flooding and enhance natural community.	4/5/2017 3:06 PM
6	Stop building in sensitive areas, protection of wetlands that does not involve substitution or creation of "new" wetland areas	4/2/2017 2:54 PM
7	My neighborhood is very windy. Having more natural barriers (like trees) would help.	3/26/2017 3:57 PM
8	Shelters for townspeople that are affected by hurricanes, fires or prolonged loss of utilities.	3/25/2017 9:14 PM
9	Don't over react and over reach.	3/23/2017 3:21 PM
10	REPAIR ERRODING COSTAL AREAS. ie PARTS OF S.W. SCOTICUT NECK AND S.W. WEST ISLAND WHERE SAND & SHORE HAS BEEN STRIPPED AWAY BY STORMS.	3/22/2017 2:11 PM
11	Sea level rise and shore erosion	3/21/2017 8:22 PM
12	Test to determine if update is needed for reverse 911 for notification of hazards. Use it for other community-related incidents, not only in event of natural hazards.	3/21/2017 8:25 AM
13	have a real LEPC with actual regular meetings. Have actual assets available on short notice and trust in public safety professionals when these assets are requested. Take the EMA and dissolve it as it stands and seek MEMA and FEMA guidance to improve what we dont have now.	3/20/2017 2:46 PM
14	any action needed to protect health not actions of non provable theories	3/20/2017 12:46 PM
15	The trash buildup issue is real. In any kid of windstorm it will allow for serious and hazardous situations. Too many residents are holding trash because their recycle bins are full and they only have one barrel	3/19/2017 9:57 PM
16	As we are seeing an increase in high winds/tornado warnings in the MA area, come up with a safety plan for residents.	3/19/2017 2:40 PM
17	I am most concerned with the potential for severe weather (hurricanes, etc.) to spread pollution. I think Fairhaven should be strongly opposing the massive PCB repository being created to our west and should be pressing more vigorously to have the Atlas Tack and smaller sites removed before nature disperses the contaminants they hold.	3/18/2017 6:35 PM
18	G Bourne knowles property.... has already had one major fire. Looks very vulnerable to another. It also just looks awful in general as the property is falling apart. Is anything to be done about this?	3/18/2017 5:03 PM
19	repair or replace all non-vertical, over loaded , utility poles	3/18/2017 10:35 AM
20	No opinion	3/17/2017 1:06 PM
21	As we watch the Acushnet River being dredged for PCBs, what is being done to protect the Fairhaven land line?	3/14/2017 9:11 AM
22	Address unsafe structures, Offer first aid & cpr classes Offer water safety classes	3/13/2017 7:08 AM

Fairhaven, MA Public Opinion Survey

23	Tree maintenance	3/12/2017 4:35 PM
24	Atlas tack	3/10/2017 11:35 PM
25	I'm not sure what is in place or can be put in place in the case that the causeway to West Island got compromised.	3/10/2017 7:40 PM
26	Educate about the costs (tax increases, personal costs, ect) of what happens if we don't use personal responsibility to reduce climate change and rebuild natural mitigations like wetlands and open spaces.	3/10/2017 6:17 PM
27	Maintain the shoreline man-made and natural barriers to coastal flooding and storm impacts. Assess the resiliency of historic buildings and consider a program of preventative maintenance to reduce risk of damage.	3/9/2017 8:00 PM
28	Increasing green energy initiatives is probably the most impactful way we can reduce our carbon footprint which may be leading to increased natural hazard events.	3/9/2017 2:03 PM
29	Assess current situations that are concern for immediate hazards and make a plan to fix that. Enforce new regulation to prevent future vulnerabilities.	3/9/2017 11:06 AM
30	Please continue the shorebird protection on West Island. It is important to that species and it was an inspiration for my daughter's interest in Conservation!!	2/26/2017 1:02 AM

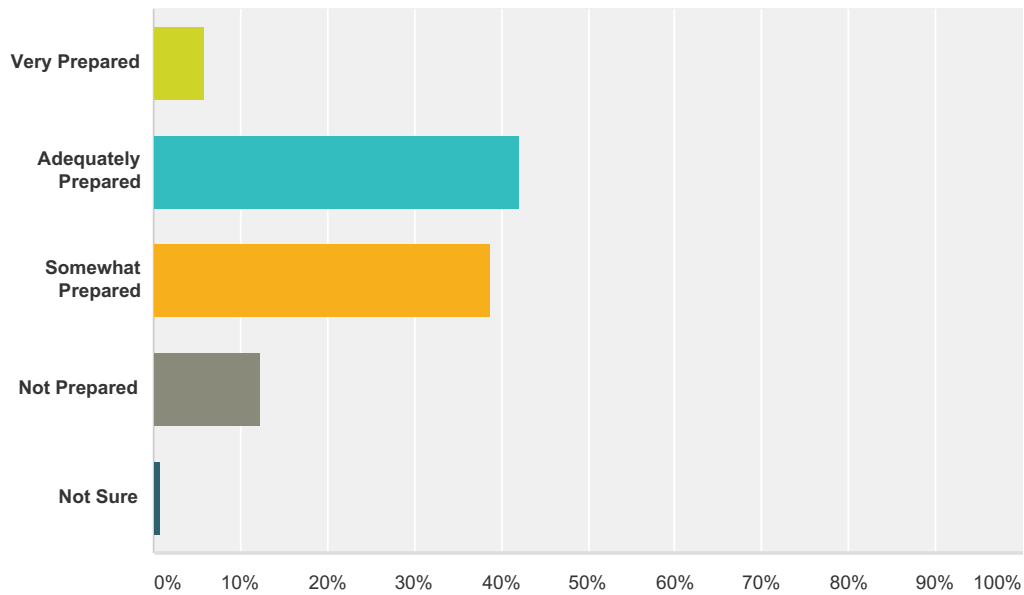
Q10 Have you or any local organizations in your community taken any actions to reduce or eliminate the risk of natural hazards? If yes, please explain.

Answered: 18 Skipped: 154

#	Responses	Date
1	Working on involvement/expanding situational awareness/ prospective planning	6/8/2017 8:43 AM
2	The Sandy Beach Organization have attempted to mitigate the erosion of Sandy Beach by building a stone wall channel and bridge for a tidal estuary, adding additional sand to the beach due to erosion, and putting in place a sand bag barrier to hold back tidal waters from entering a tidal pool. The second two have had limited or no success.	5/16/2017 4:53 PM
3	Extensive discussions with residents concerning extremely unwise decision to move PCBs from New Bedford Industrial area north of I-195 barrier to the Middle Harbor between Rt 6 Bridgd and I-195 Barrier Bridge	5/1/2017 8:13 AM
4	no	4/19/2017 7:38 PM
5	Protecting my own property from risk or impact of flooding	4/2/2017 2:54 PM
6	I bought a snow blower.	3/23/2017 3:21 PM
7	YES. SOME MODERN BUILDING CODES ADOPTED	3/22/2017 2:11 PM
8	As Coast Guard Auxiliary member I have been involved in community education outreach. Also Eversource has community outreach during storm disasters.	3/21/2017 8:25 AM
9	Not that I know of	3/19/2017 2:40 PM
10	No I have not.	3/18/2017 5:03 PM
11	no	3/18/2017 10:35 AM
12	No	3/17/2017 1:06 PM
13	Tree maintenance	3/12/2017 4:35 PM
14	I've been part of many education campaigns about clean energy.	3/10/2017 6:17 PM
15	n/a	3/9/2017 2:03 PM
16	No	3/9/2017 11:06 AM
17	Cut down tree branches that are close to electrical wires and transformers to prevent loss of power, especially during winter storms.	3/2/2017 1:42 AM
18	Yes. Global warming educational handouts and park cleanups. (I moved here from Brockton) I would volunteer in a heartbeat in any Fairhaven cleanup!!!	2/26/2017 1:02 AM

Q11 How prepared is your household to deal with a natural hazard event?

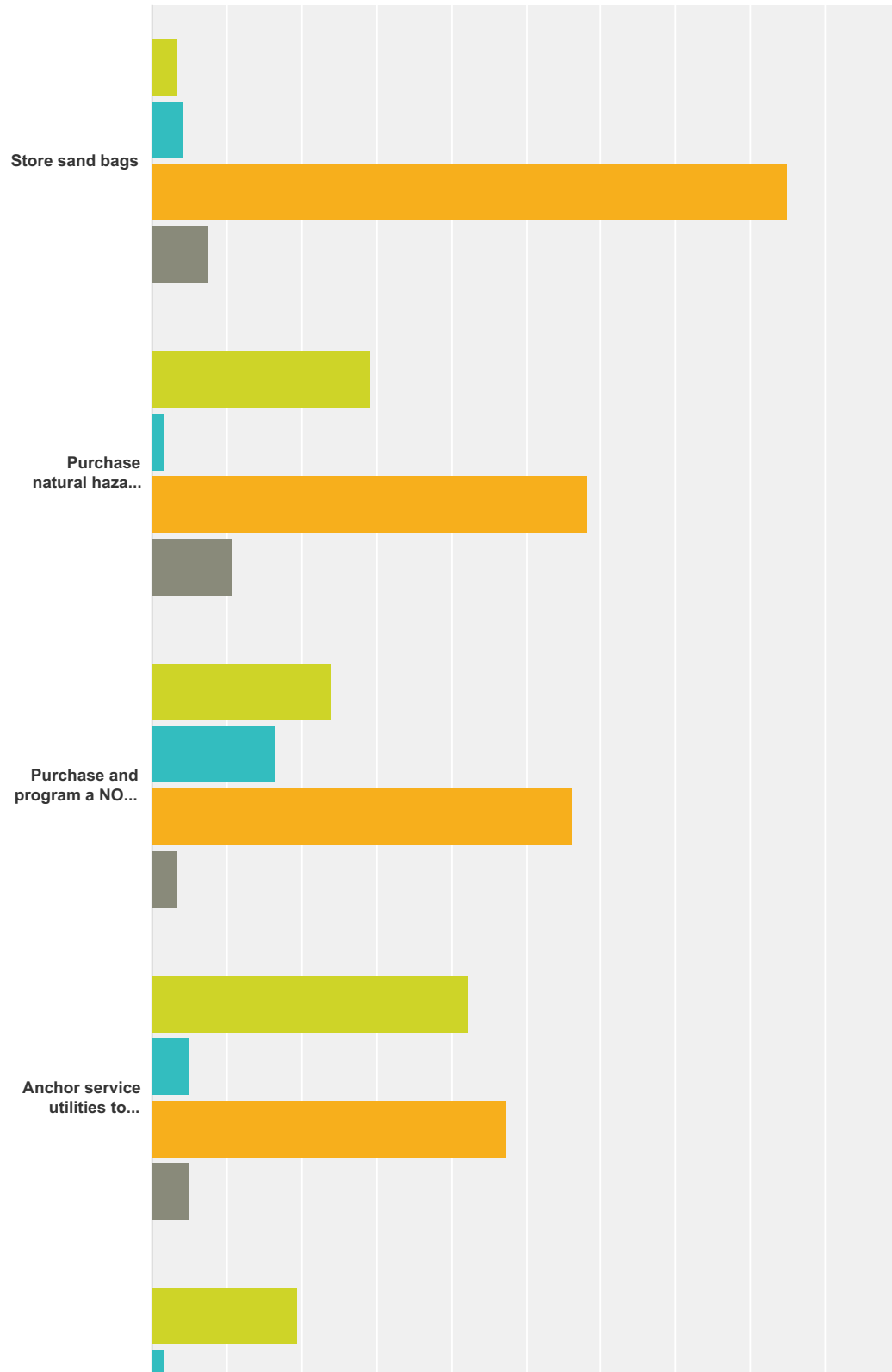
Answered: 121 Skipped: 51



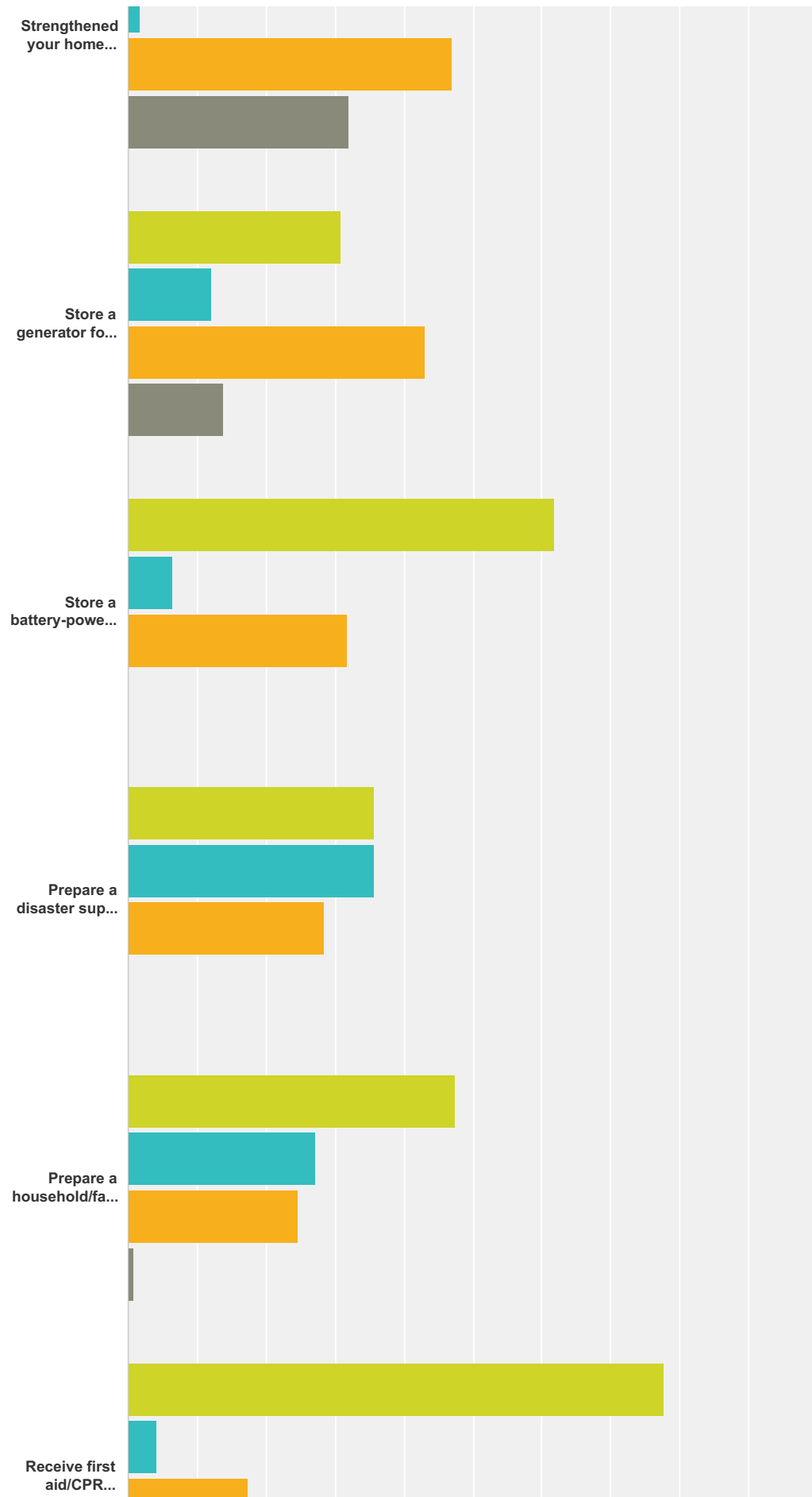
Answer Choices	Responses	
Very Prepared	5.79%	7
Adequately Prepared	42.15%	51
Somewhat Prepared	38.84%	47
Not Prepared	12.40%	15
Not Sure	0.83%	1
Total		121

Q12 In the following list, please check the activities that you have done, plan to do, have not done, or are unable to do for your household.

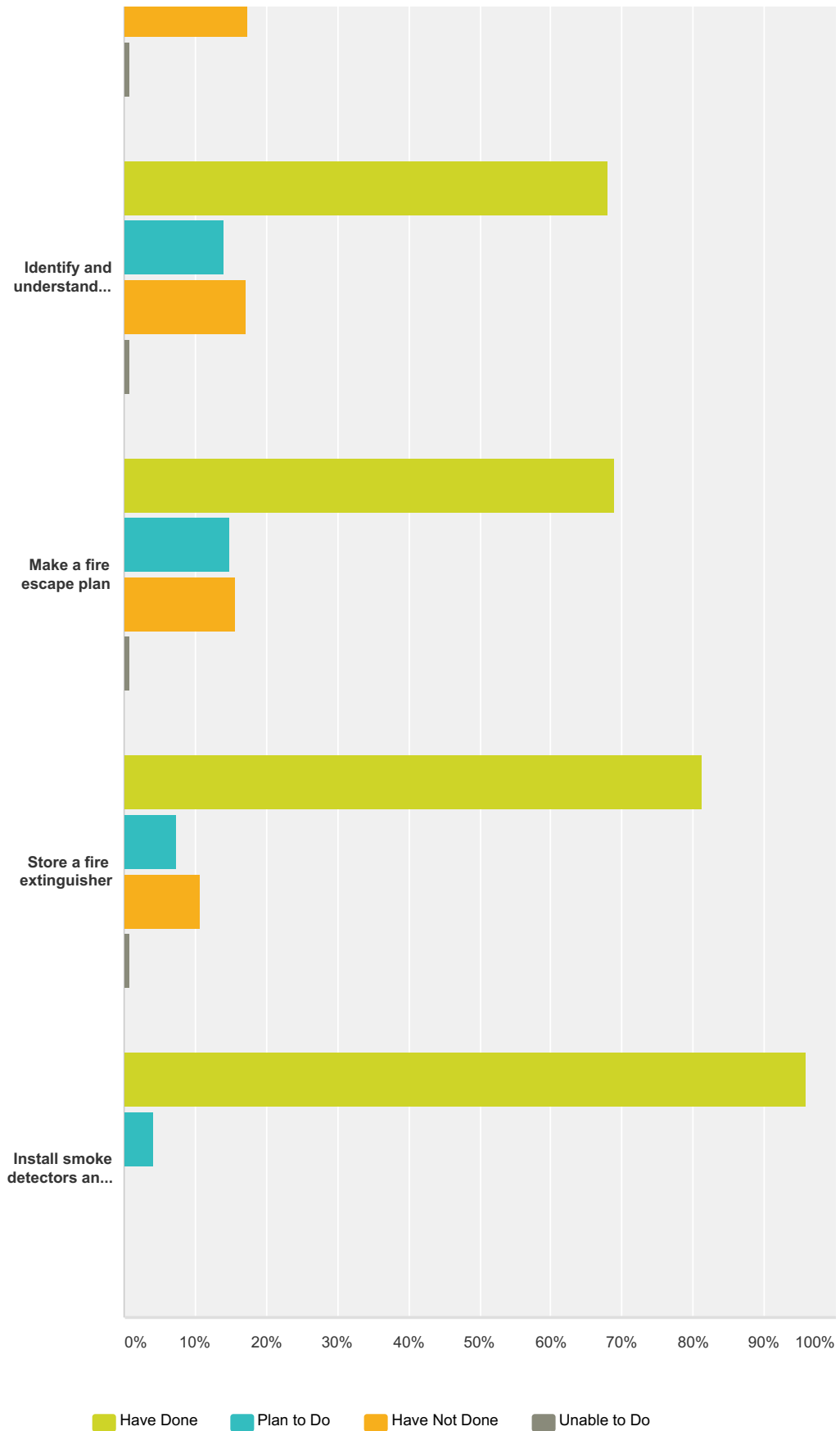
Answered: 123 Skipped: 49



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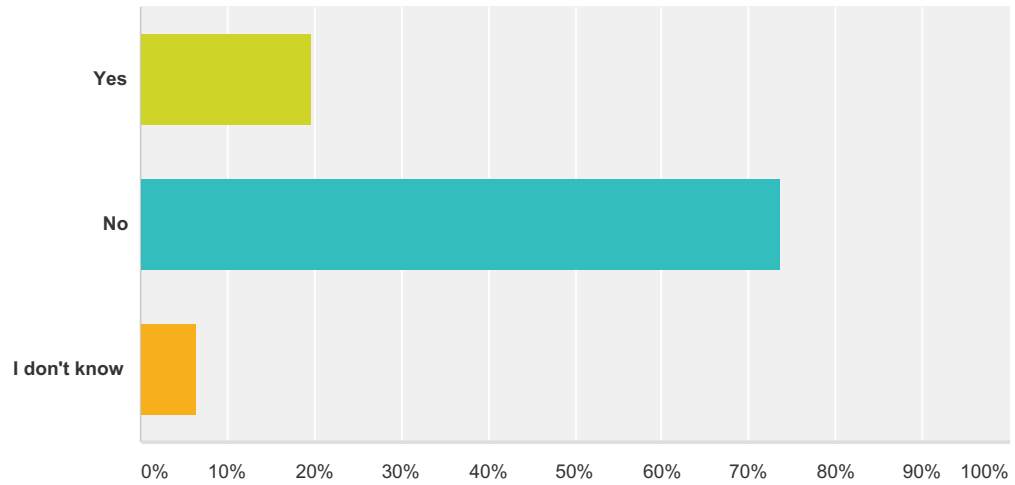
	Have Done	Plan to Do	Have Not Done	Unable to Do	Total
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Store sand bags	3.36% 4	4.20% 5	84.87% 101	7.56% 9	119
Purchase natural hazard insurance (flood, earthquake, wildfire, etc.)	29.17% 35	1.67% 2	58.33% 70	10.83% 13	120
Purchase and program a NOAA Weather Radio	23.97% 29	16.53% 20	56.20% 68	3.31% 4	121
Anchor service utilities to your home (water heater, furnace, wood stove, etc.)	42.37% 50	5.08% 6	47.46% 56	5.08% 6	118
Strengthened your home through mitigation retrofits or when your home was constructed. (This includes raising your home above flood level)	19.33% 23	1.68% 2	47.06% 56	31.93% 38	119
Store a generator for backup power	30.89% 38	12.20% 15	43.09% 53	13.82% 17	123
Store a battery-powered radio	61.79% 76	6.50% 8	31.71% 39	0.00% 0	123
Prepare a disaster supply kit (extra food, water, first aid kit, medicines, and other emergency supplies)	35.77% 44	35.77% 44	28.46% 35	0.00% 0	123
Prepare a household/family emergency plan	47.46% 56	27.12% 32	24.58% 29	0.85% 1	118
Receive first aid/CPR training	77.69% 94	4.13% 5	17.36% 21	0.83% 1	121
Identify and understand utility shutoffs	68.03% 83	13.93% 17	17.21% 21	0.82% 1	122
Make a fire escape plan	68.85% 84	14.75% 18	15.57% 19	0.82% 1	122
Store a fire extinguisher	81.30% 100	7.32% 9	10.57% 13	0.81% 1	123
Install smoke detectors and carbon monoxide detectors on each level of the house	95.90% 117	4.10% 5	0.00% 0	0.00% 0	122

Q13 Do you have flood insurance?

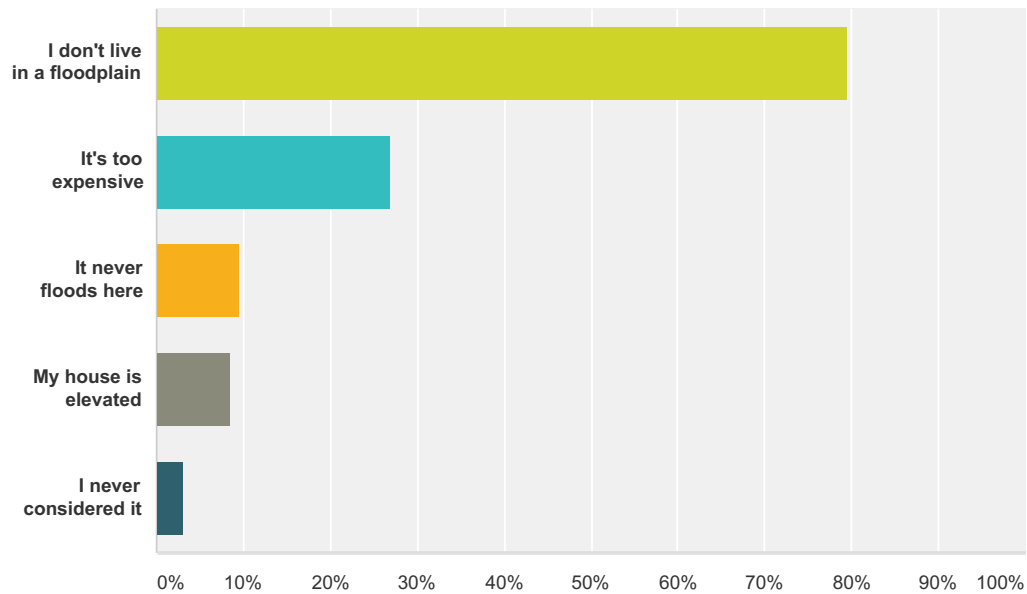
Answered: 122 Skipped: 50



Answer Choices	Responses	
Yes	19.67%	24
No	73.77%	90
I don't know	6.56%	8
Total		122

Q14 If "No", why not?

Answered: 93 Skipped: 79

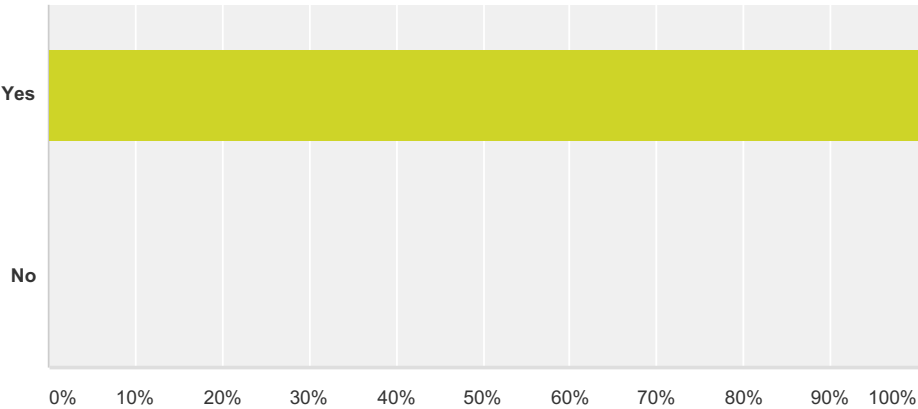


Answer Choices	Responses
I don't live in a floodplain	79.57% 74
It's too expensive	26.88% 25
It never floods here	9.68% 9
My house is elevated	8.60% 8
I never considered it	3.23% 3
Total Respondents: 93	

#	Other (please specify)	Date
1	resident senior housing	6/8/2017 8:44 AM
2	My residence is on the very edge of the redrawn FEMA floodplain map - two feet away at the same height of land is no flood zone.	4/5/2017 3:09 PM
3	I live on a hill.	3/22/2017 1:36 PM
4	Don't live in a flood zone	3/10/2017 8:09 PM
5	I am a renter.	3/10/2017 6:18 PM
6	Live in an apartment complex	3/9/2017 9:11 AM

Q15 Do you live in Fairhaven, MA?

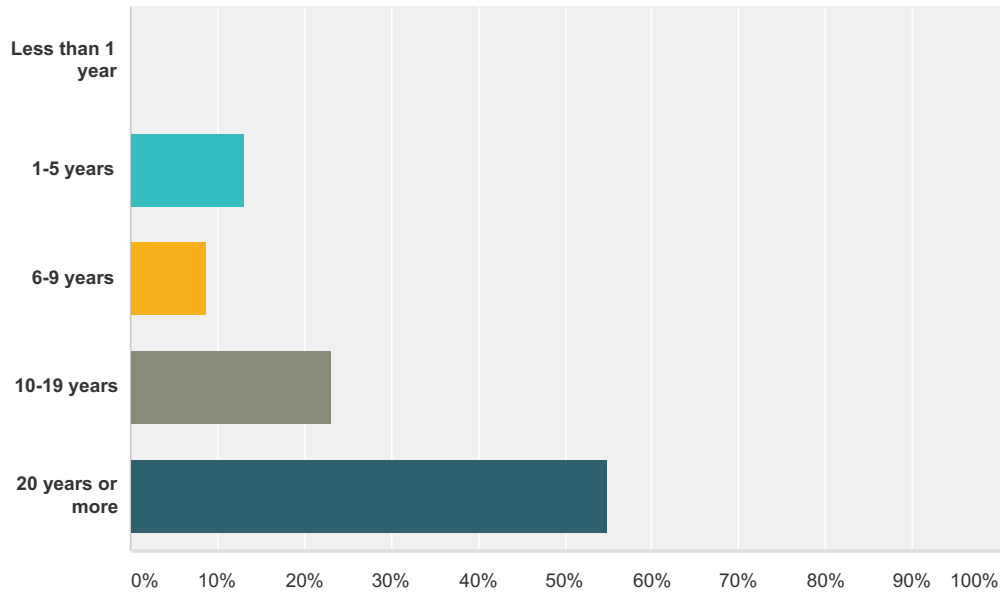
Answered: 90 Skipped: 82



Answer Choices	Responses	
Yes	100.00%	90
No	0.00%	0
Total		90

Q16 How long have you lived in Fairhaven?

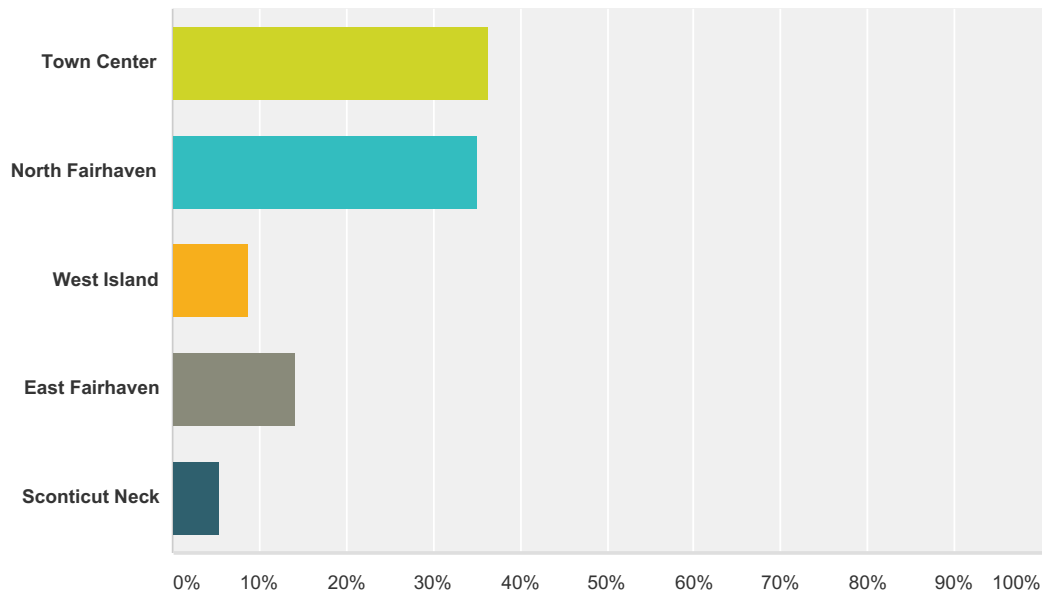
Answered: 91 Skipped: 81



Answer Choices	Responses
Less than 1 year	0.00% 0
1-5 years	13.19% 12
6-9 years	8.79% 8
10-19 years	23.08% 21
20 years or more	54.95% 50
Total	91

Q17 In which neighborhood do you live now?

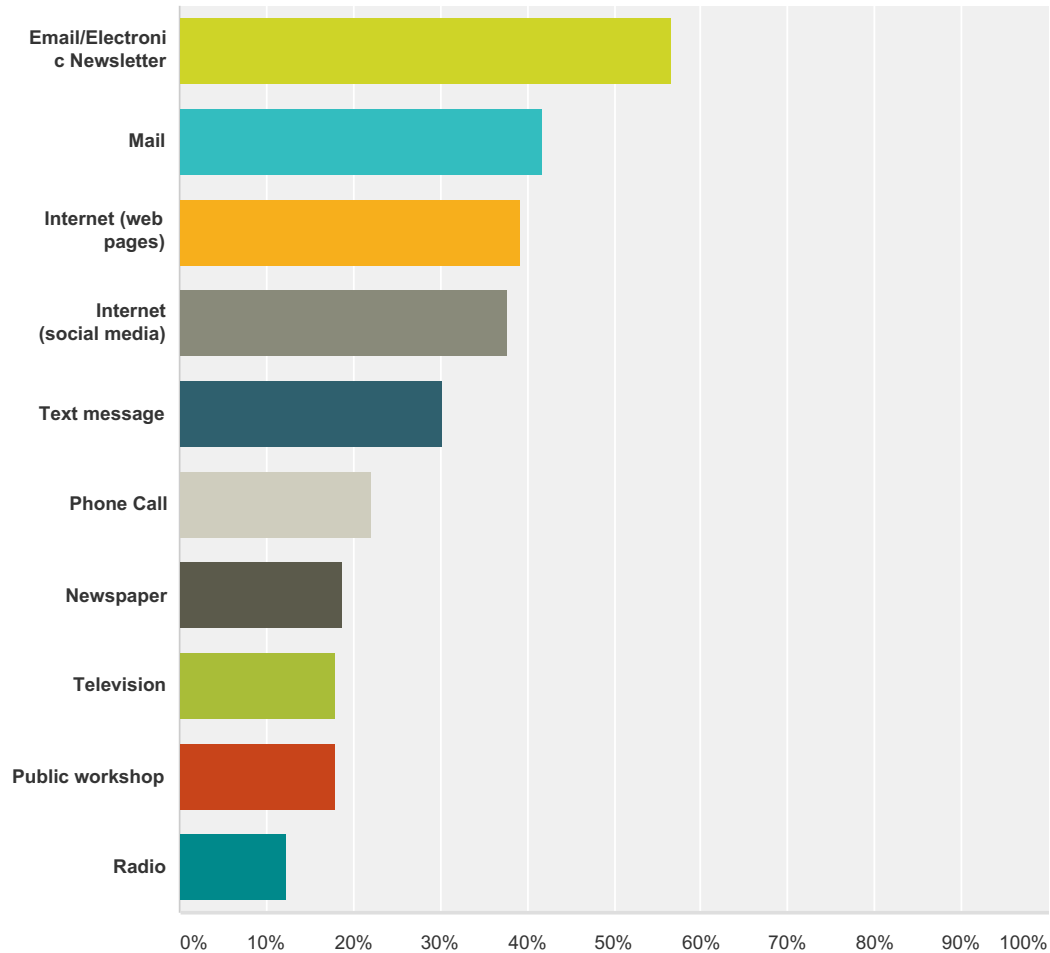
Answered: 91 Skipped: 81



Answer Choices	Responses	
Town Center	36.26%	33
North Fairhaven	35.16%	32
West Island	8.79%	8
East Fairhaven	14.29%	13
Sconticut Neck	5.49%	5
Total		91

Q18 What is the most effective way for you to receive information about how to make your home and neighborhood more resistant to natural hazards?

Answered: 122 Skipped: 50



Answer Choices	Responses	
Email/Electronic Newsletter	56.56%	69
Mail	41.80%	51
Internet (web pages)	39.34%	48
Internet (social media)	37.70%	46
Text message	30.33%	37
Phone Call	22.13%	27
Newspaper	18.85%	23
Television	18.03%	22
Public workshop	18.03%	22

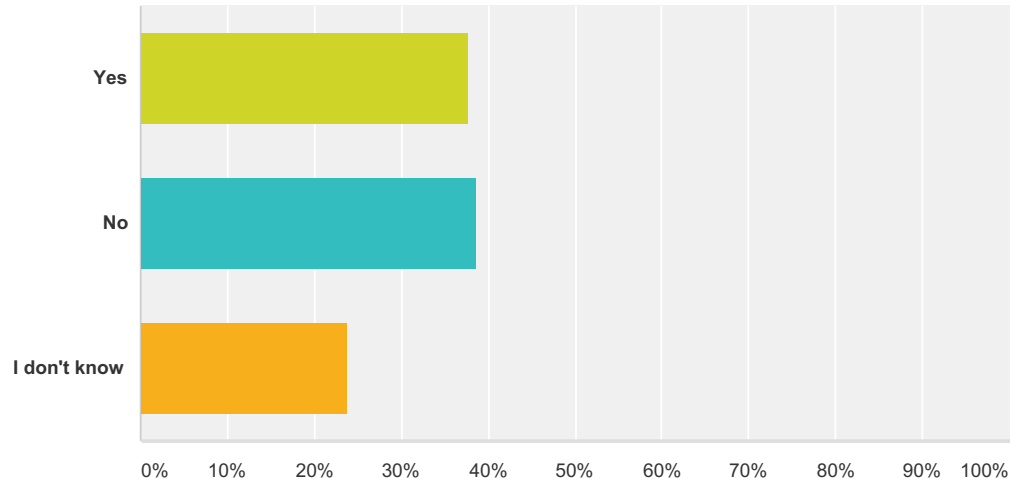
Fairhaven, MA Public Opinion Survey

Radio	12.30%	15
Total Respondents: 122		

#	Other (please specify)	Date
1	PSAs CATV Reverse 911 Workshops	6/8/2017 8:47 AM
2	Neighborhood meetings	3/10/2017 6:20 PM
3	"The Neighborhood News" free publication	2/26/2017 1:08 AM

Q19 Do you feel that information about the risk associated with natural hazards, and ways to reduce those risks, is readily available and easy to locate?

Answered: 122 Skipped: 50



Answer Choices	Responses	
Yes	37.70%	46
No	38.52%	47
I don't know	23.77%	29
Total		122

Q20 If you would like to be notified of future opportunities to participate in the plan update process, please provide us with your preferred email address below.

Answered: 42 Skipped: 130

#	Responses	Date
1	[REDACTED]	6/8/2017 8:47 AM
2	[REDACTED]	5/16/2017 5:01 PM
3	[REDACTED]	5/1/2017 8:16 AM
4	[REDACTED]	4/19/2017 7:40 PM
5	[REDACTED]	4/6/2017 8:02 AM
6	[REDACTED]	4/5/2017 3:10 PM
7	[REDACTED]	4/3/2017 8:13 AM
8	[REDACTED]	4/2/2017 2:56 PM
9	[REDACTED]	3/30/2017 9:39 AM
10	[REDACTED]	3/22/2017 2:14 PM
11	[REDACTED]	3/22/2017 11:52 AM
12	[REDACTED]	3/22/2017 10:33 AM
13	[REDACTED]	3/21/2017 5:00 PM
14	[REDACTED]	3/20/2017 1:36 PM
15	[REDACTED]	3/19/2017 9:59 PM
16	[REDACTED]	3/19/2017 9:34 PM
17	[REDACTED]	3/19/2017 2:44 PM
18	[REDACTED]	3/19/2017 12:31 PM
19	[REDACTED]	3/18/2017 6:39 PM
20	[REDACTED]	3/18/2017 1:04 PM
21	[REDACTED]	3/18/2017 8:44 AM
22	[REDACTED]	3/17/2017 10:17 PM
23	[REDACTED]	3/17/2017 11:52 AM
24	[REDACTED]	3/16/2017 10:55 AM
25	[REDACTED]	3/15/2017 6:08 AM
26	[REDACTED]	3/14/2017 11:47 AM
27	[REDACTED]	3/12/2017 4:44 PM
28	[REDACTED]	3/10/2017 9:10 PM
29	[REDACTED]	3/10/2017 8:10 PM
30	[REDACTED]	3/10/2017 6:26 PM
31	[REDACTED]	3/10/2017 6:20 PM
32	[REDACTED]	3/10/2017 7:41 AM
33	[REDACTED]	3/9/2017 10:35 PM

Fairhaven, MA Public Opinion Survey

34	[REDACTED]	3/9/2017 8:04 PM
35	[REDACTED]	3/9/2017 2:50 PM
36	[REDACTED]	3/9/2017 12:22 PM
37	[REDACTED]	3/9/2017 9:19 AM
38	[REDACTED]	3/9/2017 9:12 AM
39	[REDACTED]	3/4/2017 7:16 PM
40	[REDACTED]	3/2/2017 1:44 AM
41	[REDACTED]	2/23/2017 12:30 PM
42	[REDACTED]	2/23/2017 8:57 AM

Q21 Thank you for taking the time to complete this survey! Your responses will be very helpful as we continue with the planning process. If you have any final comments, questions, or concerns to share with the Planning Team, please use the comment box below.

Answered: 15 Skipped: 157

#	Responses	Date
1	Confer Charlotte County Water Impairment Plan via this link: https://www.charlottecountyfl.gov/boards-committees/raab/Site%20Documents/2015_006_CCU_RESTORE.pdf	6/8/2017 8:47 AM
2	Natural disasters are no the only legitimate risks we face. I think it would be useful and not paranoid to discuss action plans and provide information for the events of EMP attacks, war, nuclear attacks, and terrorist attacks.	5/16/2017 5:01 PM
3	Hold public hearings on why BOS permitted EPA to dump PCBs into residential harbor areas of Fairhaven adjacent to its High School.	5/1/2017 8:16 AM
4	It should be noted that some of the items that I rated as "not important" to improve is not because I don't think that they are not valuable but that I think we have done an adequate/good job in those areas already and therefore no improvement is needed.	3/26/2017 4:03 PM
5	A clean and safe drinking water supply for now and in the future should be protected.	3/25/2017 9:25 PM
6	Don't go overboard and over reach with this. \$\$\$\$ Fairhaven is not a wealthy community.	3/23/2017 3:25 PM
7	Flood insurance requirements mitigation needs to be fixed with FEMA they can raise rates 18% a year with no cap.	3/22/2017 11:52 AM
8	While this deals with natural hazards, Fairhaven Home Coming Day is always a concern for me. It is a large, close - proximity event with mass gathering and potential for not just malicious attack, but also simple human error. It could result in a mass casualty event, but with increased first responder presence and pre-staging an event that could be a tragedy could be mitigated.	3/21/2017 8:41 AM
9	Thank you for the opportunity	3/18/2017 1:04 PM
10	Nothing	3/17/2017 1:11 PM
11	Your welcome !	3/17/2017 11:52 AM
12	While I LOVE the history of the town and I believe landmarks and cultural heritage sites are the most unreplaceable, I believe people are adaptable and social capital is more valuable than financial capital for recovery from disasters.	3/10/2017 6:20 PM
13	I'm concerned the old Roger School and its playground and baseball field (which is still used by many) will be destroyed or sold to a business. I'd love it if the historical school was turned into a town museum. It would be nice if the playground was expanded, it is a favored spot among neighborhood residents.	3/9/2017 12:28 PM
14	Thank you!	3/4/2017 7:16 PM
15	In order to receive financial aid thru FEMA after a declared disaster, communities need to adopt the following (PETS Act). Fairhaven has been negligent in doing so. Thus losing the opportunity to receive federal government fundings: http://www.akcreunite.org/relief/ https://www.avma.org/KB/Resources/Reference/disaster/Pages/PETS-Act-FAQ.aspx	2/23/2017 8:57 AM

FOR IMMEDIATE RELEASE

PUBLIC MEETING ON HAZARD MITIGATION PLAN

Residents and other community stakeholders are invited to participate in the Town of Fairhaven's 2nd Public Meeting regarding the development of a new Hazard Mitigation Plan. The meeting will take place on **June 7, 2017 from 6:30 pm – 8:00 pm at the Town Hall**, 40 Center Street, Fairhaven, MA. The plan is essential to the Town's efforts to identify ways to lessen the impacts of natural hazards such as hurricanes, flooding, and severe winter weather. **All community members are welcome and encouraged to attend!**

During this public meeting, preliminary results of the risk assessment will be shared and the identification of risk reduction goals and strategies will be discussed. Plenty of time will be available to capture feedback and additional input from attendees. Prior to adjourning the meeting, a raffle will be held for a copy of *The Great Hurricane – 1938*, a riveting account of one of the worst storm to strike New England, written by Cherie Burns.

Town residents are also encouraged to participate in the ongoing Public Opinion Survey to share their thoughts and input during the plan development process. The information provided will help the Town to better understand individual and unique hazard concerns in the community and can lead to mitigation activities that should help lessen the impacts of future disasters. Participation in this survey is voluntary and none of the information provided will be attributed to anyone directly.

To participate in the survey, please visit the Town's website at:

<http://www.fairhaven-ma.gov/Pages/index>

To learn more about the project, please visit the project web page at:

<http://www.jamiecaplan.com/projects/fairhaven>

If you have any questions or would like to learn about more ways you can participate in the development of the Hazard Mitigation Plan, please contact Bill Roth, Director of Planning & Economic Development, by phone at (508) 979-4082, Ext. 9 or by email at billr@fairhaven-ma.gov.

Public Hearings/Legal Notices

NOTE: All legal notices are available on the Neighb News website, www.NeighbNews.com, under the "Legal Notices" tab on the top of the main page. Legal ads are also available at <http://masspublicnotices.org>, search under "Fairhaven Neighborhood News"

Town of Fairhaven Notice of Public Meeting Hazard Mitigation Plan

The Town will hold a Public Meeting on Thursday, January 11, 2018, at 6:30 pm at Town Hall. The purpose of this third public meeting will be to present and receive feedback on the Town's final draft Hazard Mitigation Plan. This includes a review of proposed actions to improve emergency preparedness and reduce the impact of natural hazards such as hurricanes, floods, and severe winter storms. All members of the community are encouraged to attend. For more information please contact Bill Roth, Director of Planning and Economic Development, at (508) 979-4082 Ext. 9 or billr@fairhaven-ma.gov. To learn more about this project and review draft plan documents, please visit the Town's Hazard Mitigation Planning Committee website at http://fairhaven-ma.gov/pages/FairhavenMA_Hazard/index. 1/4/18

FAIRHAVEN PLANNING BOARD PUBLIC HEARING NOTICE

Notice is hereby given that the Fairhaven Planning Board will conduct a Public Hearing at 6:30 P.M. on January 23, 2018, in the Town Hall, 40 Center Street, Fairhaven, MA.

The purpose of the hearings will be to receive information and public comment on the following applications. 1) **Rezone** — The applicant, *Albert Roderiques* is seeking to rezone his property located at 273 Alden Road, Map 37A, Lot 538, containing 19,050 square feet, from Business District (B) to Single Residence Districts (RA). 2) **Special Permit** for the installation of Small Cell Equipment-V#SC05 — located

on Utility Pole #46/10 in the Town right-of-way on Center Street, adjacent to 46 Center Street. The applicant, *Cellco Partnership, d/b/a Verizon Wireless*, is requesting a Special Permit, to use the existing 29.5-foot tall utility pole. The Small Cell Equipment will be located at a height of 12.5-feet, the meter box will be located at a height of 8-feet, and the Antenna base will be located at a height of 19-feet and will have a top height of 24-feet.

Copies of the applications are on file for public review at the Planning Board Office, Town Hall from 8:30 a.m. to 4:30 p.m., Monday through Friday. For more information or to schedule an appointment to review the application call the Planning Department at (508) 979-4082, Ext. 9.

Wayne Hayward, Chairman of the Planning Board
1/4/18 & 1/11/18

PUBLIC HEARING NOTICE

The Fairhaven Board of Selectmen, pursuant to Section 3.2 of the Town of Fairhaven Rules and Regulations Governing Aquaculture, will conduct a public hearing at 7:00 p.m. on January 22, 2018 at the Fairhaven Town Hall, 40 Center Street, Fairhaven, MA on the application of Matthew Loo and Thomas Loo, 42 Taber Street, Fairhaven, MA, for an aquaculture license to operate a shell fish farm on approximately 1.82 acres of public water located in the vicinity of Shaw's cove on the Fairhaven-Mattapoisett Town Line, filed on October 25, 2017. The coordinates of the area of operation are:

41.628333, -70.843500
41.628222, -70.844472
41.628944, -70.844417
41.627427, -70.843306

A copy of the complete application can be found on the Town's website: www.fairhaven-ma.gov and clicking on "Documents and Contracts"

Fairhaven Board of Selectmen 1/4/18

Support the Neighb News

It's no secret that newspapers are having a tough time these days. Here at the *Neighb News*, we know you want us to continue publishing. Your support is needed to keep us fiscally sound and healthy. Any small amount will help us stay afloat.

Just clip the coupon and send it with check or money order to *Fairhaven Neighborhood News*, 166 Dogwood St., Fairhaven, MA 02719.

Ask for a bumper sticker that says "I Support the *Neighb News*."

And thank you for reading the little paper with a big voice.

Name: _____

Address: _____

City/State/Zip: _____

Email: _____

Do you want to receive the paper by email? _____

Y N

From our readers

Pantry says "thank you"

This letter of thanks goes out to all the generous people who contributed money and/or non-perishable food to the 14th annual Shepherd's Pantry holiday fundraiser. With a monthly expenditure of around \$6,000.00 used to purchase food that is either running low or out of completely, monetary donations are necessary to keep the pantry running smoothly.

According to Blanche Pepin, the pantry's administrator, hard working and dedicated volunteers handed out thousands of food items to over 6,000 families during this past year. Broken down, that's over 16,000 individuals helped; with 33% of this total going to children and an average of over 95 families that come looking for help each Saturday between the hours of 9 and 11 a.m.

A BIG thank you for this year's success goes to the much needed and appreciated newspaper articles from The Standard-Times, The Fairhaven/Acushnet Advocate and the Fairhaven Neighborhood News. Also, a BIG thank you to some of the area's businesses, churches, schools and

non-profit groups and organizations that have donated their time and money towards our yearly venture. I'd also like to acknowledge the donors who have visited our web site, shepherdspantry.org, and felt inspired to help our cause.

Another big contributor this year was when both The Greater New Bedford Track Club and Union Running from Fairhaven had agreed, back in August of this year, to take over the responsibility and the hard work to promote and run our annual Turkey Trot road race. This annual Thanksgiving morning event brought in 890 registered runners, a new record. After expenses, over \$20,000 and over 2,500 lbs. of food that was donated, because of the road race, found its way to the Shepherd's Pantry.

Also, another big thank you to the Stop & Shop Bakery Department workers, located in Fairhaven, who hand me outdated bread and pastries on Friday afternoons to be given out the next morning to the needy who frequent the pantry.

And finally, the food bins located at

the Millicent Library, and Stop & Shop Supermarket, both located in Fairhaven, where generous people have dropped off thousands of pounds of non-perishable food this past year, will continue.

If you have any questions about the pantry located at the Long Plain United Methodist Church at 1215 Main Street in Acushnet, please call 508-763-9289.

Sincerely, Gerry Payette
Holiday fund raiser coordinator and
Executive Director

Get the Neighb News by email


Get the *Neighb News* delivered directly to your desktop. Email us at NeighbNews@comcast.net, with your full name, and we will send you your very own copy of the *Neighb News* in a PDF.


You'll get it bright and early Thursday morning every week without even leaving your house, or stopping on your way to work.

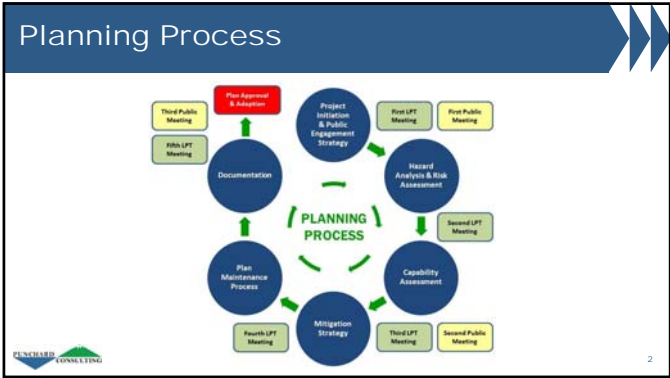
Town of Fairhaven
Local Hazard Mitigation Plan

January 11, 2018

Public Meeting #3







Final Draft Plan

Main Plan

1. Introduction

2. Planning Process

3. Community Profile

4. Mitigation Strategy


5. Plan Maintenance


Appendices

A. Hazard Analysis and Risk Assessment

B. Capability Assessment

C. Additional Documentation





Final Draft Plan (detailed outline)

1. Introduction

• Background

• Purpose

• Authority and Scope

• Plan Organization

2. Planning Process

• Overview

• Hazard Mitigation Planning Committee

• Public and Stakeholder Engagement

• Review of Existing Plans, Reports, and Other Relevant Information

3. Community Profile

• Location and History

• Geography and Climate

• Population, Demographics, and Housing

• Infrastructure and Environment

• Employment and Industry

• Land Use and Development Trends

4. Mitigation Strategy

• Overview

• Mitigation Goals

• Identification and Analysis of Possible Mitigation Measures

• Selection and Prioritization of Mitigation Actions

5. Plan Maintenance

• Plan Implementation and Integration

• Monitoring, Evaluation, and Enhancement

• Continued Public Involvement

Appendix A: Hazard Analysis & Risk Assessment

• Overview

• Hazard Identification

• Hazard Profiles

• Vulnerability Assessment

• Summary Findings and Conclusions

Appendix B: Capability Assessment

• Overview

• Methodology

• Review of Existing Capabilities

• Previously Implemented Mitigation Measures

• Summary Findings and Conclusions

Appendix C: Additional Documentation

• Adoption Resolution

• Hazard Mitigation Planning Committee Meetings

• Public and Stakeholder Engagement Activities

• FEMA Registration Checklist



Final Draft Plan

Plan Organization summarized on pp. 5-6

Table of Contents

1. Introduction

2. Planning Process

3. Community Profile


4. Mitigation Strategy

5. Plan Maintenance

Appendix A: Hazard Analysis & Risk Assessment


Appendix B: Capability Assessment

Appendix C: Additional Documentation



Risk Assessment Summary

HIGH RISK	Coastal Storm Coastal Flood Severe Winter Storm Severe Weather
MODERATE RISK	Fire Coastal Erosion and Sea Level Rise Riverine Flood
LOW RISK	Drought Earthquake Extreme Temperatures Urban Flood



Capability Assessment Summary		
Capability Type	Overall Rating	Enhancement Opportunities
Planning & Regulatory	High Capability	<ul style="list-style-type: none">Integrate mitigation/adaptation into Master PlanStrengthen existing zoning & development regulationsPrepare post-disaster recovery planPrepare emergency evacuation & shelter plan
Administrative & Technical	Moderate Capability	<ul style="list-style-type: none">Submit application to join FEMA's CRS programDevelop tree preservation/maintenance planMaintain regular meetings of the Hazard Mitigation Planning CommitteeJoin the Massachusetts Statewide Mutual Aid AgreementSupport additional training and professional development for staffBuild local capacity and resources for internal GIS functions and services (versus contracting out)
Financial	Moderate Capability	<ul style="list-style-type: none">Continue pursuit of federal and state grantsConduct more detailed project scoping and benefit/cost analysis for mitigation projectsCoordinate with SRPEDD and neighboring communities on regional mitigation projects/activitiesAdvertise and promote availability of funds to assist property owners to reduce risk
Education & Awareness	Moderate Capability	<ul style="list-style-type: none">Develop hazard-specific flyers/brochuresPromote availability of flood insuranceEstablish collection at Millicent libraryProvide information on climate change/adaptationDevelop Program for Public Information (CRS)Promote the plan and Town's eligibility for grantsDevelop pre-storm PSAs on evacuation, shelters, re-entry, repair/rebuilding, generator safety, etc.

Mitigation Strategy	
Mission Statement <i>Reduce the impact of natural hazards and a changing climate on Fairhaven's residents, businesses, facilities, and services through improved disaster preparedness and risk reduction strategies.</i>	
Goal #1	Invest in improvements to critical facilities and infrastructure that will protect the Town from the impacts of natural hazards and a changing climate.
Goal #2	Identify and implement structural hazard mitigation and climate adaptation projects with the support of state and federal grant funding.
Goal #3	Enact non-structural planning and policy measures to prevent or reduce the impacts of identified hazards, with special emphasis on promoting nature-based solutions.
Goal #4	Conduct public education and outreach activities to better inform people about hazard risks and the steps they can take to prepare for and reduce their impact.
Goal #5	Support Town staff participation in training and exercise programs to better prepare the Town to respond to, mitigate against, and recover from emergencies and disasters.
Goal #6	Develop additional resources to build the Town's capacity to routinely update and implement a comprehensive hazard risk reduction program.

Mitigation Strategy	
Mitigation Action Plan <ul style="list-style-type: none">38 proposed actionsOrganized under five (5) categories:<ul style="list-style-type: none">Local Plans & RegulationsStructure & Infrastructure ProjectsNatural Systems ProtectionEducation & AwarenessEmergency Preparedness	
Description	
Mitigation Goal	
Mitigation Category	
Hazard(s) Addressed	
Estimated Cost	
Potential Funding Source	
Lead Department	
Implementation Schedule	
Priority	

Mitigation Strategy


Mitigation Action Plan Summary (pp. 73-77)

Table 4-1 Mitigation Action Plan (MAP) Summary (pp. 73-77) Revised Mitigation Plan

Action #	Action Title	Mitigation Goal	Mitigation Category	Hazard(s) Addressed	Estimated Cost	Potential Funding Source	Lead Department	Implementation Schedule	Priority
1	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations
2	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations
3	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations
4	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations	Local Plans & Regulations
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Section 4 - Mitigation Strategy

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Mitigation Strategy

Mitigation Action Tracker *(MS Excel spreadsheet)*

A		B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Action #	Action Title	Mitigation Description	Priority	Phase	Start Date	End Date	Lead Agency	Responsible Person	Status	Progress %	Notes	Comments	Attachments	Links	Related Documents	Related Projects	Related Programs	Related Policies	Related Regulations	Related Standards	Related Guidelines	Related Best Practices	Related Case Studies	Related Research	Related Reports	Related Publications
1	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
2	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
3	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
4	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
5	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
6	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
7	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
8	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
9	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
10	100% Mitigation	100% Mitigation	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

Prioritization of Mitigation Actions	
Prioritization Criteria: <ol style="list-style-type: none">Anticipated reduction in risk to life and/or propertyEase of implementationPolitical and community supportGeneral cost-effectivenessFunding availability	
High Priority	The most immediate, cost-effective and appropriate actions preferably to be accomplished in the short to mid-term (1-2 year) planning horizon.
Moderate Priority	Fairly urgent, cost-effective and appropriate actions but with some possible difficulties associated with implementation. Preferably accomplished in the mid to long-term (2-4 year) planning horizon.
Low Priority	Not urgent, but an action to be considered for implementation at some point over the long-term (4+ years) when implementation is deemed most appropriate.

Next Steps

- **YOU:** Review + Comment on Draft Plan Documents by January 31st
 - Focus special attention on Mitigation Action Plan (pp. 34-72), especially any actions that are assigned to your department or agency
 - Please send all questions, comments, or revisions to Bill Roth
 - Feel free to contact Darrin directly at darrin@punchardconsulting.com or 617-777-2001
- **ME:** Create Final Plan!
 - Update Mitigation Action Plan (funding sources, priorities, etc.)
 - Update Risk Assessment with *new* climate projections for MA
 - Address any additional comments/revisions for local approval of Final Plan
- Final Plan will be completed + submitted to MEMA for review in February



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C.3. LOCAL MITIGATION PLAN REVIEW TOOL

This section includes a copy of a completed FEMA Local Mitigation Plan Review Tool to confirm that the plan meets all requirements of Title 44 Code of Regulations (CFR) 201.6.

LOCAL MITIGATION PLAN REVIEW TOOL

Jurisdiction Name & State: Town of Fairhaven, MA

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: Town of Fairhaven	Title of Plan: Town of Fairhaven Hazard Mitigation Plan	Date of Plan: February 2018 (Adopted June 2018)
Single or Multi-jurisdiction plan? Single	New Plan or Plan Update? New	
Regional Point of Contact: Title: Agency: Phone Number: E-Mail:	Local Point of Contact: Mark Rees Title: Town Administrator Agency: Town Administrator's Office, Town Hall 40 Center St., Fairhaven, MA 02719 Phone Number: 508-979-4023 ext.2 E-Mail: mrees@fairhaven-ma.gov	

State Reviewer: Jeffrey Zukowski	Title: Hazard Mitigation Planner	Date: 4/4/2018
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FEMA Reviewer: David Mendelsohn Parker Moore	Title: FEMA Community Planner FEMA Community Planner	Date: 4/16/2018 6/25/2018
Date Received in FEMA Region I	4/9/2018	
Plan Not Approved		
Plan Approvable Pending Adoption	4/19/2018	
Plan Adopted	6/4/2018	
Plan Approved	6/25/2018	

SECTION 1: REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been ‘Met’ or ‘Not Met.’ The ‘Required Revisions’ summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is ‘Not Met.’ Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
ELEMENT A. PLANNING PROCESS				
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	pp.7-16	X		
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	pp. 10-16	X		
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	pp. 10-16	X		
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	pp. 16-17	X		
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	p. 80	X		
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	pp. 78-80	X		
ELEMENT A: REQUIRED REVISIONS				
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT				
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	Appendix A (throughout)	X		

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	Appendix A (see applicable sections for each profile)	X		
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	Appendix A (see applicable sections for each profile) and pp. A-60-86	X		
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	pp. 43, 54, 70 and Appendix A, pp. A-48-49	X		
ELEMENT B: REQUIRED REVISIONS				
ELEMENT C. MITIGATION STRATEGY				
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	Appendix B (throughout)	X		
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))	Appendix B pp. B-25-27	X		
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))	pp. 29-30, and Appendix A p. A-1	X		
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	pp. 30-76 and Appendix C (in Summary Notes from LPT meetings)	X		
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	pp. 30-76	X		
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	pp. 77-78	X		
ELEMENT C: REQUIRED REVISIONS				
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)				
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	N/A			

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	N/A			
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	N/A			
ELEMENT D: REQUIRED REVISIONS				
ELEMENT E. PLAN ADOPTION				
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))		X		
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))				
ELEMENT E: REQUIRED REVISIONS				
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)				
F1.				
F2.				
ELEMENT F: REQUIRED REVISIONS				

SECTION 2: PLAN ASSESSMENT

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

- *Robust public outreach effort has paid off*
- *All three adjacent towns were represented on the Fairhaven Hazard Mitigation Planning Committee.*
- *Good use of survey in the effort to reach more of the public and other stakeholders.*

Element B: Hazard Identification and Risk Assessment

- *Well organized and complete hazard analysis and risk assessment.*
- *Good use of maps, tables and presentation materials, including power point slides.*
- *In discussing the risk of dam failure in the planning area, it is good to see mentioned that the analysis included both “within” town and “immediately upstream” from town.*
- *A very detailed, but also understandable prioritization process.*

Element C: Mitigation Strategy

- *The Mitigation Actions are broad and good for a first time plan. However they are overly reliant on action statements that: “study”, “investigate”, “identify”, “research”, and “develop” actions. Subsequent updates are expected to identify completed actions that will succeed in mitigating the risks.*
- *With the above in mind, it is good to see that this Hazard Mitigation Plan has been identified as a “living document” that will be “updated as needed.”*

B. Resources for Implementing Your Approved Plan

State Sources of Technical Assistance & Funding:

The Commonwealth of Massachusetts State Hazard Mitigation Officer (SHMO) and State Mitigation Planner(s) can provide guidance regarding grants, technical assistance, available publications, and training opportunities. Contact the Massachusetts Emergency Management Agency (MEMA) <http://www.mass.gov/eopss/agencies/mema/>, [Department of Conservation and Recreation DCR](#) and, MEMA Hazard Mitigation Grants and Hazard Mitigation Success Stories at <http://www.mass.gov/eopss/agencies/mema/resources/mitigation/> and Massachusetts Department of Environmental Protection <http://www.mass.gov/eea/agencies/massdep/>. Refer to the Massachusetts State Hazard Mitigation Plan Update 2013 (Section 17.6, p. 17-54 or p. 544) which identifies a number of potential funding sources for various mitigation activities. Communities are encouraged to work with the State to maximize use of every 406 Hazard Mitigation opportunity when available during federally declared disasters. A better alignment and increasing the effectiveness of 406 and 404 Mitigation funds, greatly benefit the community in the long run.

Federal and Non-Profit Sources of Technical Assistance & Funding:

Federal Grants Resource Center and Grants.gov

Federal agencies may support integrated planning efforts such as rural development, sustainable communities and smart growth, climate change and adaptation, historic preservation, risk analyses, wildfire mitigation, conservation, Federal Highways pilot projects, etc. The Federal Grants Resource Center is located on the website of the national non-profit Reconnecting America, and provides a compilation of key funding sources for projects in your community. Examples are HUD, DOT/FHWA, EPA, and Sustainable Communities grant programs. For more information visit: <http://reconnectingamerica.org/resource-center/federal-grant-opportunities/> or www.grants.gov.

GrantWatch.com

The website posts current foundation, local, state, and federal grants on one website. When seeking funding opportunities for mitigation, consider a variety of sources for grants, guidance, and partnerships, including academic institutions, non-profits, community organizations, and businesses, in addition to governmental agencies. Examples are The Partnership for Resilient Communities, the Institute for Sustainable Communities, the Rockefeller Foundation *Resilience*, The Nature Conservancy, The Kresge Climate-Resilient Initiative, the Threshold Foundation's *Thriving Resilient Communities* funding, the RAND Corporation, and ICLEI *Local Governments for Sustainability*.

<http://www.grantwatch.com>

FEMA Hazard Mitigation Assistance

FEMA's Hazard Mitigation Assistance provides funding for projects under the Hazard Mitigation Grant Program (HMGP), Pre-Disaster Mitigation (PDM), and Flood Mitigation Assistance (FMA). Individuals and businesses are not eligible to apply for HMA funds; however, an eligible applicant or sub-applicant may apply on their behalf. <http://www.fema.gov/hazard-mitigation-assistance>

Recommended FEMA Publications & Websites:

Hazard Mitigation Planning Online Webliography, FEMA Region I

This compilation of government and private online sites is a useful source of information for developing and implementing hazard mitigation programs and plans in New England.

<http://www.fema.gov/about-region-i/about-region-i/hazard-mitigation-planning-webliography>

FEMA Library

FEMA publications can be downloaded for free from its Library website. This repository contains a wealth of information that can be especially useful in public information and outreach programs. Search by keyword to find documents related to a particular topic. Examples include building and construction techniques, the NFIP, integrating historic preservation and cultural resource protection with mitigation, and helpful fact sheets.

<http://www.fema.gov/library>

FEMA RiskMAP

Technical assistance is available through RiskMAP to assist communities in identifying, selecting, and implementing activities to support mitigation planning and risk reduction. Attend any RiskMAP discovery meetings that may be scheduled in the state (or neighboring communities with shared watersheds boundaries) in the future.

<https://www.fema.gov/risk-mapping-assessment-and-planning-risk-map>

FEMA Climate Change Website

[Provides resources that address climate change.](#)

<http://www.fema.gov/climate-change>

Other Recommended Publications & Websites:

U.S. Climate Resilience Toolkit

Scientific tools, information, and expertise are provided to help manage climate-related risks and improve resilience to extreme events. This aid assists planning through links to a wide-variety of web-tools covering topics, including coastal flood risk, ecosystem vulnerability, and water resources. Experts can be located in the NOAA, USDA, and Department of Interior.

<https://toolkit.climate.gov>

EPA's Resilience and Adaptation in New England (RAINE) Climate Change Program

A collection of vulnerability, resilience and adaptation reports, plans, and webpages at the state, regional, and community levels. Communities can use the RAINE database to learn from nearby communities about building resiliency and adapting to climate change.

<http://www.epa.gov/raine>

USDA Rural Community Development Grant Programs

USDA operates over fifty financial assistance programs for a variety of rural applications.

<http://www.rd.usda.gov/programs-services>

NOAA Sea Grant

Sea Grant's mission is to provide integrated research, communication, education, extension and legal programs to coastal communities that lead to the responsible use of the nation's ocean, coastal and Great Lakes resources through informed personal, policy and management decisions. Examples of the resources available help communities plan, adapt, and recovery are the *Community Resilience Map of Projects* and the *National Sea Grant Resilience Toolkit*, both located on this website.

<http://seagrant.noaa.gov>

USDA, Natural Resources Conservation Service (NRCS)

Provides conservation technical assistance, financial assistance, and conservation innovation grants.

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/>

The Rockefeller Foundation Resilience

Helping cities, organizations, and communities better prepare for, respond to, and transform from disruption.

<https://www.rockefellerfoundation.org/our-work/topics/resilience/>