Lower Connecticut River Valley Council of Governments
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2019 Natural Hazards Mitigation Plan Update - Planning Committee Workshop #2

April 22, 2020

RiverCOG

Chester | Clinton | Cromwell | Deep River | Durham | East Haddam | East Hampton | Essex | Haddam | Killingworth | Lyme | Middlefield | Middletown | Old Lyme | Old Saybrook | Portland | Westbrook

MILONE & MACBROOM

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Today's Agenda

- Background and Purpose
- Project Schedule and Timeline
  - Public Outreach Strategy
  - Comments on Municipal Meeting Follow-up
- Background and Purpose
- Review Hazard ID, Ranking, Risk Assessment Loss Estimation
- Review Updated Regional Goals, Objectives and Actions
  - Regional Menu
  - Local Annexes
- "Breakout" Meetings
- Reconvene and Next Steps

Background and Purpose

Purpose and Need for a Hazard Mitigation Plan

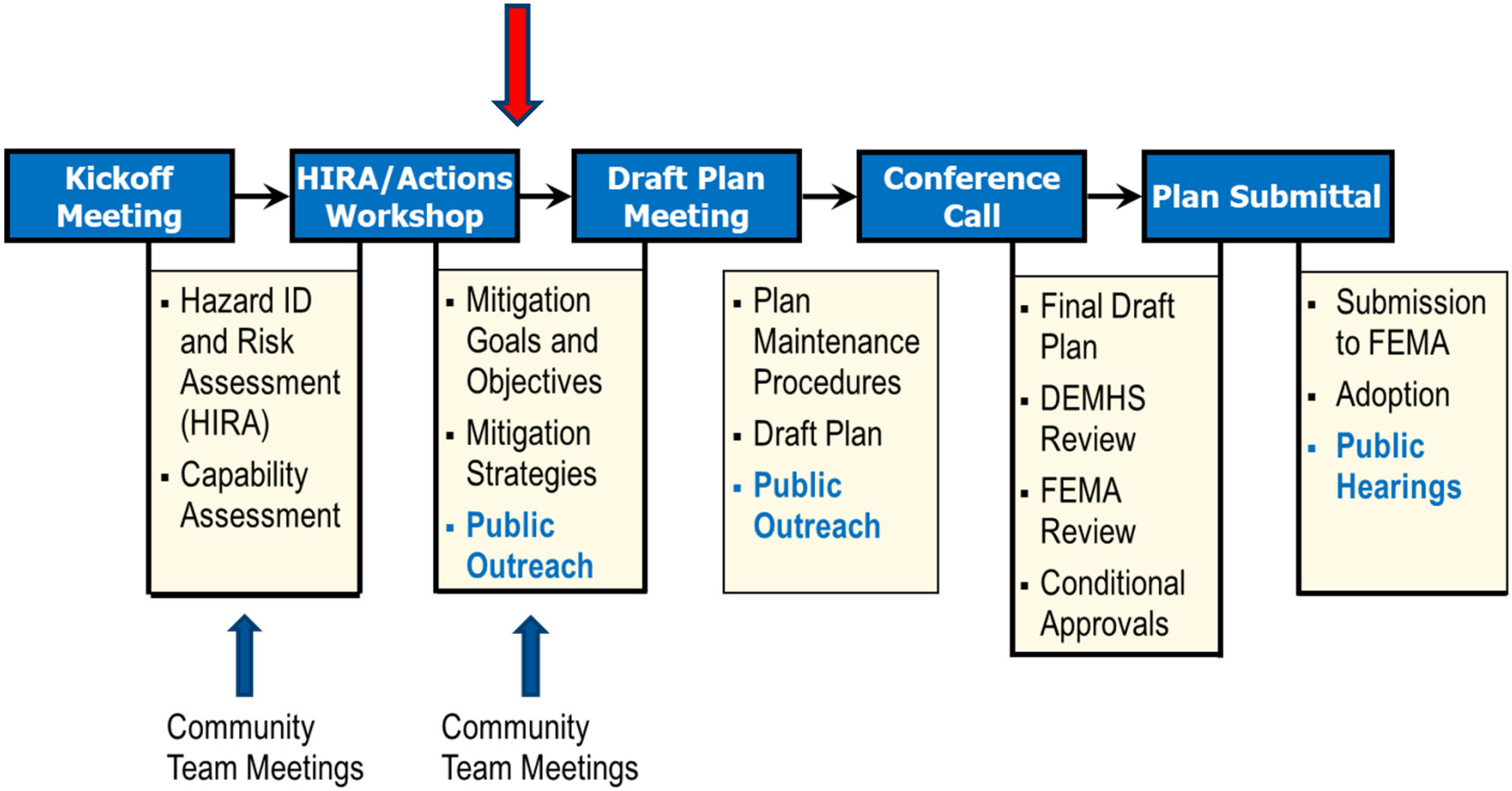
- Authority
  - Disaster Mitigation Act of 2000 (amendments to Stafford Act of 1988)
- Goal of Disaster Mitigation Act
  - Encourage disaster preparedness
  - Encourage hazard mitigation actions to reduce losses of life and property
- Status of Plans in Connecticut
  - Local plans are updated every five years.
  - RiverCOG municipal plans were last updated in 2014.
  - Must be updated in order to be eligible for FEMA HMA grants.

Plan Components

- Planning Process Description
- Capability Assessment
- Hazard ID and Risk Assessment
- Vulnerability Analysis and Loss Estimations
- Hazard Mitigation Strategy
- Implementation Plan

Project Schedule and Timeline

Project Timeline



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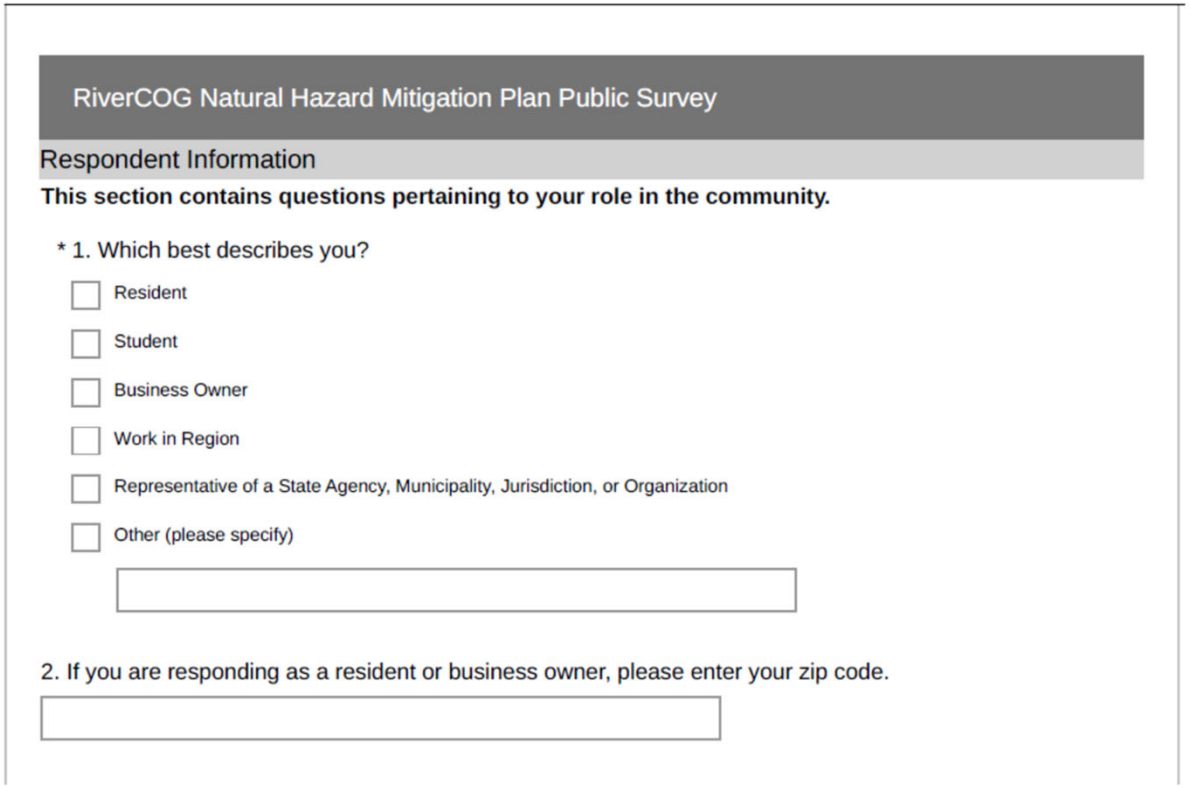
Project Schedule

		Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
1. Pre-Planning, Data Collection, Planning Process											
1.1	Internal Kick-Off Meeting										
1.2	Planning Team Workshop 1 /Public Meeting										
1.3	*Data Collection and Municpal Meetings*										
1.4	*Stakeholder and Public Participation*		survey	survey							
1.5	*Record Keeping and Reporting*										
2. Capability Assessment											
2a	Complete Data Collection										
2b	Update Capability Assessment										
3. Update Risk Assessments											
3.1	Hazard ID and Prioritization										
3.2	Hazard Profiles										
3.3	Critical Facilities and Assett Inventory										
3.4	Vulnerability Assessment and Loss Est.										
3.5	Planning Team Workshop 2 /Public Meeting										
4. Mitigation Goals and Strategies											
4.1	Update 2014 Actions										
42	Jurisdiction Goals, Strategies, and Projects										
4.3	Plan Implementation Strategy Refinement										
4.4	Planning Team Workshop 3 / Public Meet										
5. Final HMP Submission and Review											
5.1	Final Plan Adoption and Approval Proc.										
	DESPP/DEMHS Submittal*										
5.2	FEMA Final Plan Approval*										
	Final Deliverables										

Public Outreach Strategy

- Online Survey
- Public Meetings??
- Public Review of Draft Plan

What is important to you?



RiverCOG Natural Hazard Mitigation Plan Public Survey

Respondent Information

This section contains questions pertaining to your role in the community.

* 1. Which best describes you?

- [ ] Resident
- [ ] Student
- [ ] Business Owner
- [ ] Work in Region
- [ ] Representative of a State Agency, Municipality, Jurisdiction, or Organization
- [ ] Other (please specify)

2. If you are responding as a resident or business owner, please enter your zip code.

https://www.surveymonkey.com/r/WNMKMJH

Municipal Meeting Follow Up

- Review meeting minutes
- Complete 2014 strategy disposition table
- Letter of intent
- Participant worksheet

Hazard Identification and Risk Assessment

Hazard Identification and Risk Assessment

Purpose: Provides a factual basis for prioritizing hazard mitigation activities.

Major components:

- Select and rank hazard priorities.
- Profiles of natural hazards affecting the region
- Vulnerability of the region as a whole
- Vulnerability and lost estimations for individual communities
- Integration of State hazard mitigation plan findings

Hazard Identification

RiverCOG's Hazards

• Winter Storms
  ○ Snow, Ice, Nor'easters
• Flooding
  ○ Riverine, Drainage, Coastal Surge, Sea Level Rise, Dam Breach
• Severe Weather Events
  ○ Thunderstorms, Wind, Hail, Lightening
• Earthquake
• Drought
• Wildfire
• Extreme Heat and Cold
• Tree Damage
• Invasive Species

Climate Change:
Climate change will amplify the impact of natural hazards.

Hazard Profiles

For each hazard:

- Hazard Profile
  - Location
  - Severity
  - Frequency
- Previous Events
- Climate Change Impacts
- Exposure
- Vulnerability

Hazard Priority Ranking Criteria

New for 2020 Plan Update

- **Probability**: likelihood of occurrence from historical data.
- **Affected Area**: size of geographical area of community affected by hazard
- **Primary Impact**: percent of damage to typical facility in the community
- **Secondary Impact**: hazard impacts to economy and community health
- **Community Survey Rating**: community's perceived risk in terms of hazards impacting the survey responders' home and neighborhood.

Hazard Priority Ranking Criteria

Probability	Affected Area	Primary Impact	Secondary Impact	Community Survey Rating
Weighting: 2	*Weighting: 0.5*	*Weighting: 1.0*	*Weighting: 0.7*	*Weighting: 0.5*
Unlikely *Less than 1% probability in next 100 years or has a recurrence interval of greater than every 100 years.*	**Isolated** *Less than 1% of area affected*	**Negligible** *Less than 10% damage*	**Negligible** *No loss of function, downtime, and/or evacuations*	**Low** *No perceived threat to neighborhood or home*
Somewhat Likely *Between 1 and 10% probability in next year or has a recurrence interval of 11 to 100 years.*	**Small** *Between 1 and 10% of area affected*	**Limited** *Between 10% and 25% damage*	**Limited** *Minimal loss of function, downtime, and/or evacuations*	**Medium-Low** *Minimal perceived threat to neighborhood or home*
Likely *Between 10 and 100% probability in next year or has a recurrence interval of 10 years or less.*	**Medium** *Between 10 and 50% of area affected*	**Critical** *Between 25% and 50% damage*	**Moderate** *Some loss of function, downtime, and/or evacuations*	**Medium-High** *Some perceived threat to neighborhood or home*
Highly Likely *Near 100% probability in next year or happens every year.*	**Large** *Between 50 and 100% of area affected*	**Catastrophic** *More than 50% damage*	**High** *Major loss of function, downtime, and/or evacuations*	**High** *Major perceived threat to neighborhood or home*

Hazard Ranking Comparison

Hazard Type	Probability	Impact			Community Survey Ranking	Hazard Planning Consideration
		Affected Area	Primary Impact	Secondary Impacts		
Winter Storms	Highly Likely	Large	Negligible	Moderate		Significant
Flood	Likely	Medium	Limited	High		Significant
Hurricanes / Wind	Likely	Large	Critical	Moderate		Significant
Severe Weather (Thunderstorms)	Highly Likely	Small	Negligible	Limited		Moderate
Extreme Temps	Likely	Large	Negligible	Negligible		Limited
Tree Damage	Likely	Medium	Negligible.	Negligible		Limited
Tornado	Somewhat Likely	Isolated	Catastrophic	Limited		Limited
Earthquake	Unlikely	Large	Catastrophic	High		Limited
Drought	Somewhat Likely	Medium	Negligible	Negligible		Limited
Wildfire	Somewhat Likely	Small	Negligible	Negligible		Limited

Hazard Specific Analysis

In order of priority:

- Winter Storm (High Priority)
- Flooding (High Priority)
- Hurricane and Wind (High Priority)
- Severe Weather (Moderate Priority)
- Extreme Temperature
- Tree Damage / Invasive Species
- Tornado
- Earthquake
- Drought
- Wildfire

Loss Estimation Approaches

- HAZUS analysis for Flood, Hurricane Wind, and Earthquakes
  - Improved methodology in most recent version
- For the Non-HAZUS Hazards:
  - Use NCEI (former NCDC)
  - Use NFIP losses
  - Use Public Assistance reimbursements
  - Downscale loss estimates from CT HMP
  - Ask for typical losses for the most challenging hazards (i.e., wildfire losses)
- Augment with Exposure Analysis

Flooding

- Riverine
- Coastal Surge
- Drainage
- Sea Level Rise
- Statistical Susceptibility Model

Inland Sample – Flood Exposure

Cromwell								
Hazard	Number of Parcels	Value of At-Risk Parcels (Millions)	Number of Buildings	Value of At-Risk Buildings (Millions)	Number of Critical Facilities	Value of At-Risk Critical Facilities (Millions)	Number of Historic Assets	Value of At-Risk Historic Assets (Millions)
Hurricane/Tropical storm	6,011	1294	5,629	859	11	66	137	38
Severe Thunderstorm	6,011	1294	5,629	859	11	66	137	38
Severe Winter Storm/Nor'easter	6,011	1294	5,629	859	11	66	137	38
Tornado	6,011	1294	5,629	859	11	66	137	38
Drought	6,011	1294	5,629	859	11	66	137	38
Earthquake	6,011	1294	5,629	859	11	66	137	38
Flooding								
1% Annual	558	264	443	142	4	25	66	18
0.2% Annual	939	482	813	262	4	16	42	14
Dam Failure	92	62	82	36	1	5	0	0

Coastal Sample – Flood Exposure

Old Lyme								
Hazard	Number of Parcels	Value of At-Risk Parcels (Millions)	Number of Buildings	Value of At-Risk Buildings (Millions)	Number Of Critical Facilities	Value of At-Risk Critical Facilities (Millions)	Number of Historic Assets	Value of At-Risk Historic Assets (Millions)
Hurricane/Tropical storm	5,483	1554	4,750	761	7	29	113	137
Severe Thunderstorm	5,483	1554	4,750	761	7	29	113	137
Severe Winter Storm/Nor'easter	5,483	1554	4,750	761	7	29	113	137
Tornado	5,483	1554	4,750	761	7	29	113	137
Drought	5,483	1554	4,750	761	7	29	113	137
Earthquake	5,483	1554	4,750	761	7	29	113	137
Flooding								
1% Annual	2,006	678	1,646	289	2	2	22	26
0.2% Annual	3,686	1,243	3,096	566	3	2	42	39
Storm Surge								
Category 1	990	399	751	165	1	2	12	17
Category 2	1,446	530	1,169	219	1	2	18	18
Category 3	1,854	648	1,551	279	1	2	23	28
Category 4	2,165	737	1,843	318	1	2	38	35
Erosion Risk Areas	41	17	27	3	0	0	1	0
Seal Level Rise	625	299	432	119	0	0	10	15

NCEI Losses and Probability by County

- Middlesex County: 42 recorded events over a 24 year period of record = Probability of 1.75 events in any given year. $643,980 in damages in same period. Annualized damages $26,833/yr.
- New London County: 100 recorded events over a 24 year period of record = Probability of 4.16 events in any given year. $7.6 million in damages in same period. Annualized damages $316,666/yr.

Public Assistance Damages 1998-2019

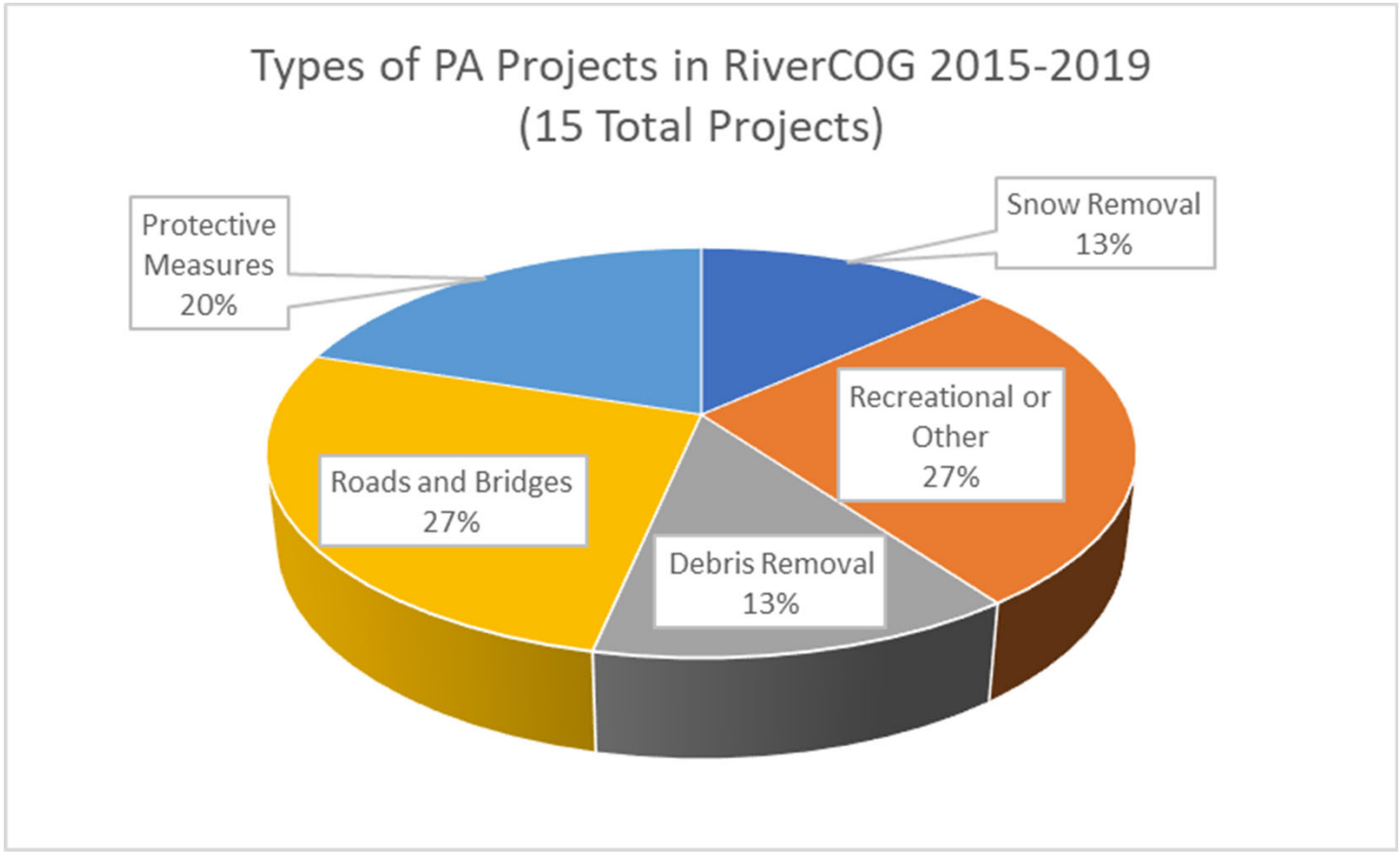
Total PA Claims 1998-2019

Municipality	Flood
Chester	$158,936
Clinton	$1,326,118
Cromwell	$0
Deep River	$16,624
Durham	$45,572
East Haddam	$0
East Hampton	$37,515
Essex	$73,322
Haddam	$0
Killingworth	$168,219
Lyme	$0
Middlefield	$0
Middletown	$0
Old Lyme	$290,112
Old Saybrook	$1,661,017
Portland	$0
Westbrook	$200,586
RiverCOG	**$3,978,021**

Annualized PA Damages (21 Years)

Municipality	Flood
Chester	$7,568
Clinton	$63,148
Cromwell	$0
Deep River	$792
Durham	$2,170
East Haddam	$0
East Hampton	$1,786
Essex	$3,492
Haddam	$0
Killingworth	$8,010
Lyme	$0
Middlefield	$0
Middletown	$0
Old Lyme	$13,815
Old Saybrook	$79,096
Portland	$0
Westbrook	$9,552
RiverCOG	**$189,430**

Public Assistance Damages 2015-2019



2015 Winter Storm and 2018 Flood

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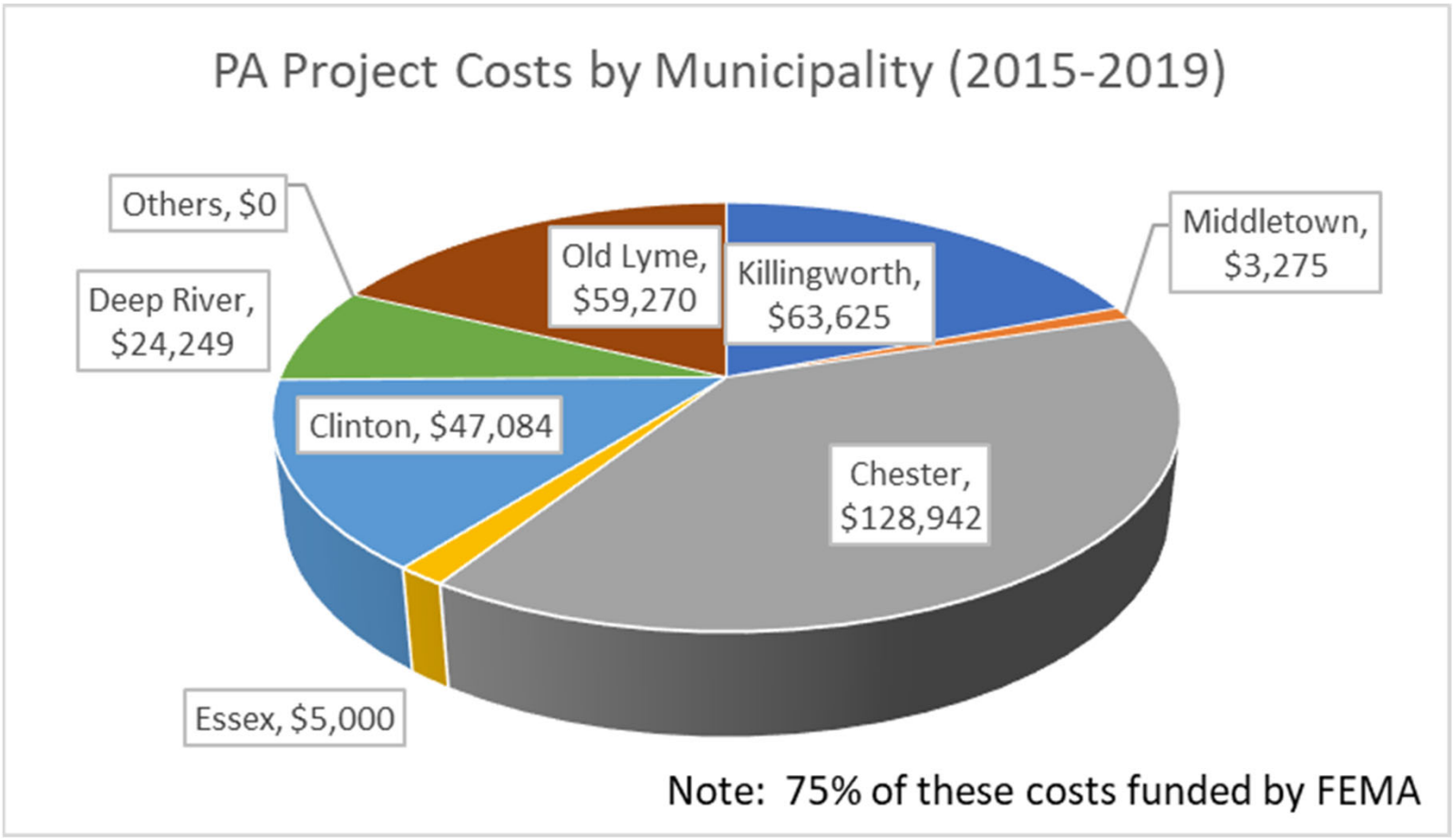
Public Assistance Damages 2015-2019



2015 Winter Storm and 2018 Flood

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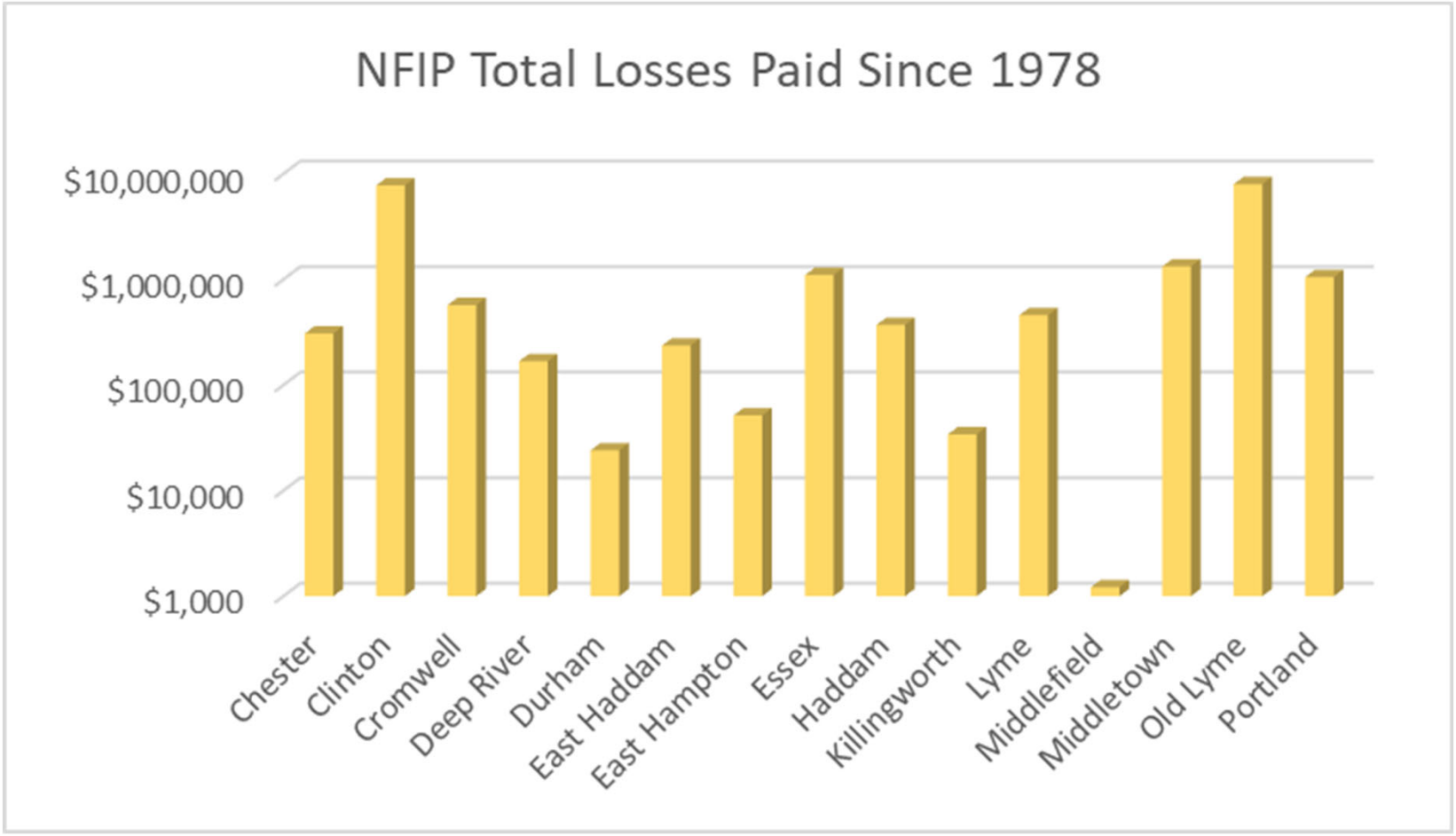
Flood Insurance Claims Since 1978

Municipality	Polices In Force	Insurance in Force	Total Losses Paid	Repetitive Loss Buildings
Chester	57	$ 17,081,400	$308,521	4
Clinton	642	$ 161,795,500	$7,796,473	52
Cromwell	84	$ 20,849,000	$573,626	3
Deep River	36	$ 9,453,400	$168,496	2
Durham	11	$ 2,716,400	$24,125	1
East Haddam	36	$ 9,942,200	$237,147	4
East Hampton	17	$ 4,628,000	$51,594	1
Essex	74	$ 23,167,500	$1,102,443	5
Haddam	41	$ 10,695,200	$371,439	6
Killingworth	20	$ 6,142,700	$34,173	0
Lyme	34	$ 9,291,000	$459,560	4
Middlefield	3	$ 464,800	$1,217	0
Middletown	198	$ 50,633,600	$1,329,059	3
Old Lyme	506	$ 141,490,300	$8,012,854	35
Portland	41	$ 10,055,800	$1,052,236	6
	Policy data as of 6/30/2019			

Total claims = $21.5 million

Total Claims Paid



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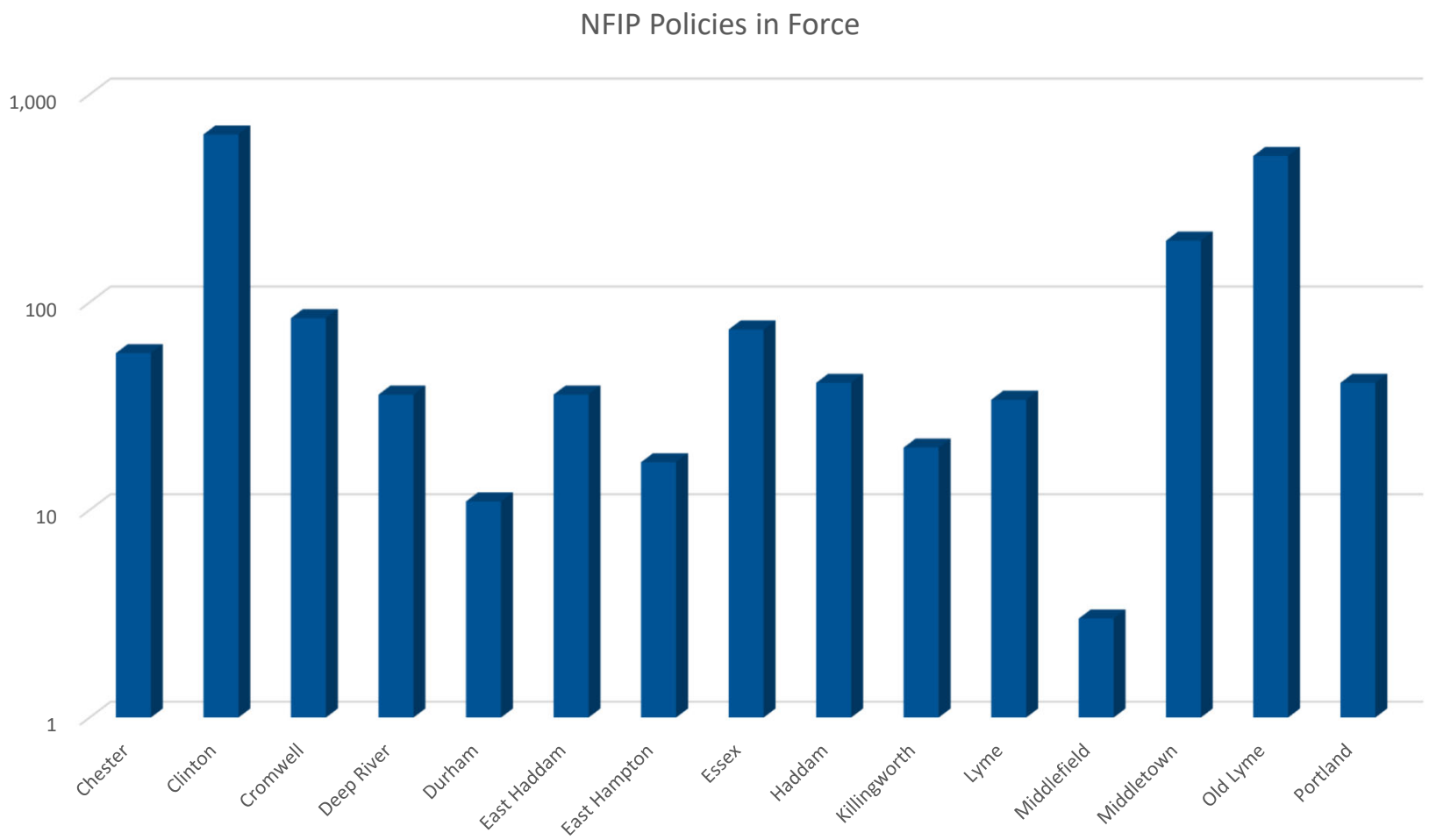
NFIP Policies



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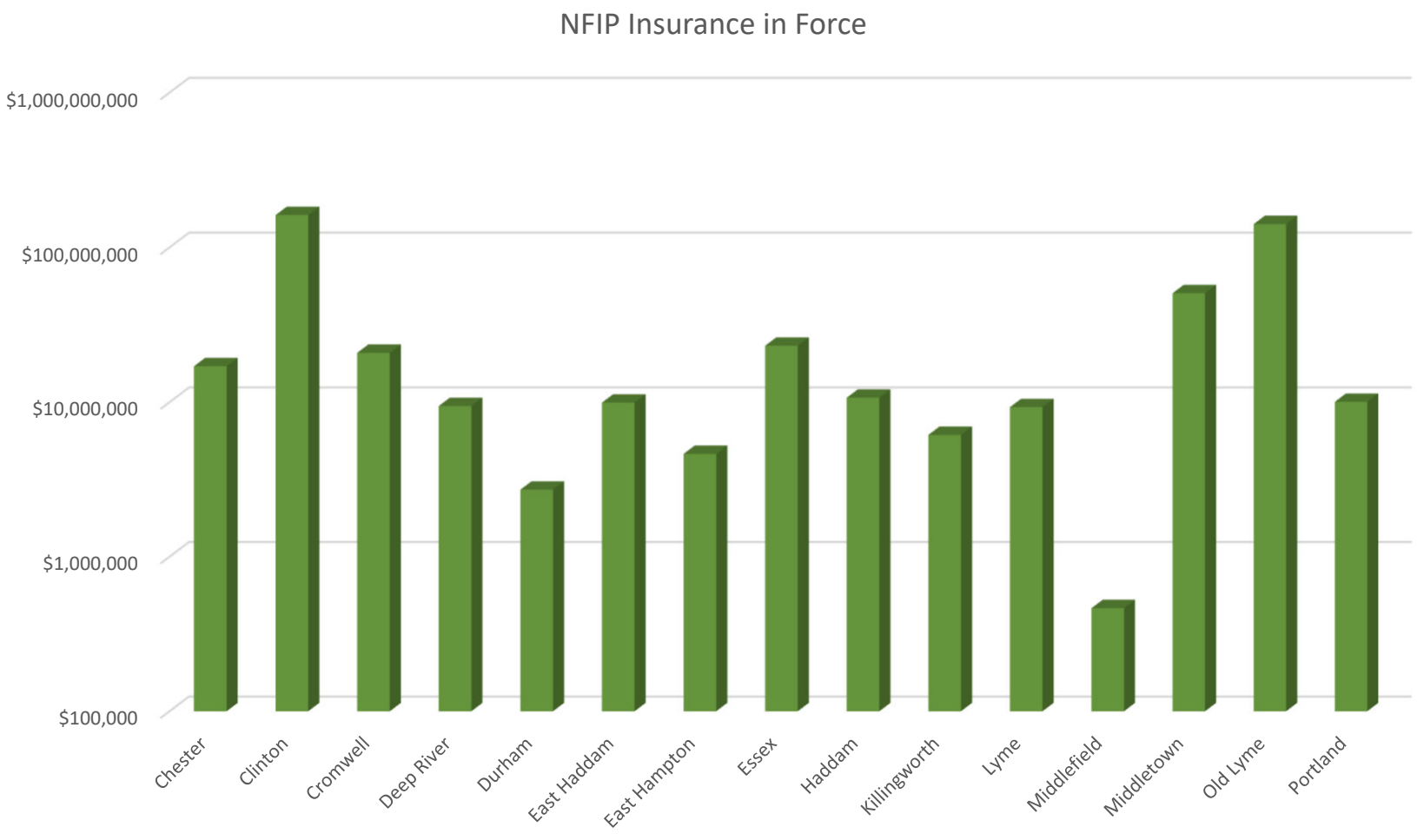
NFIP Insurance in Force



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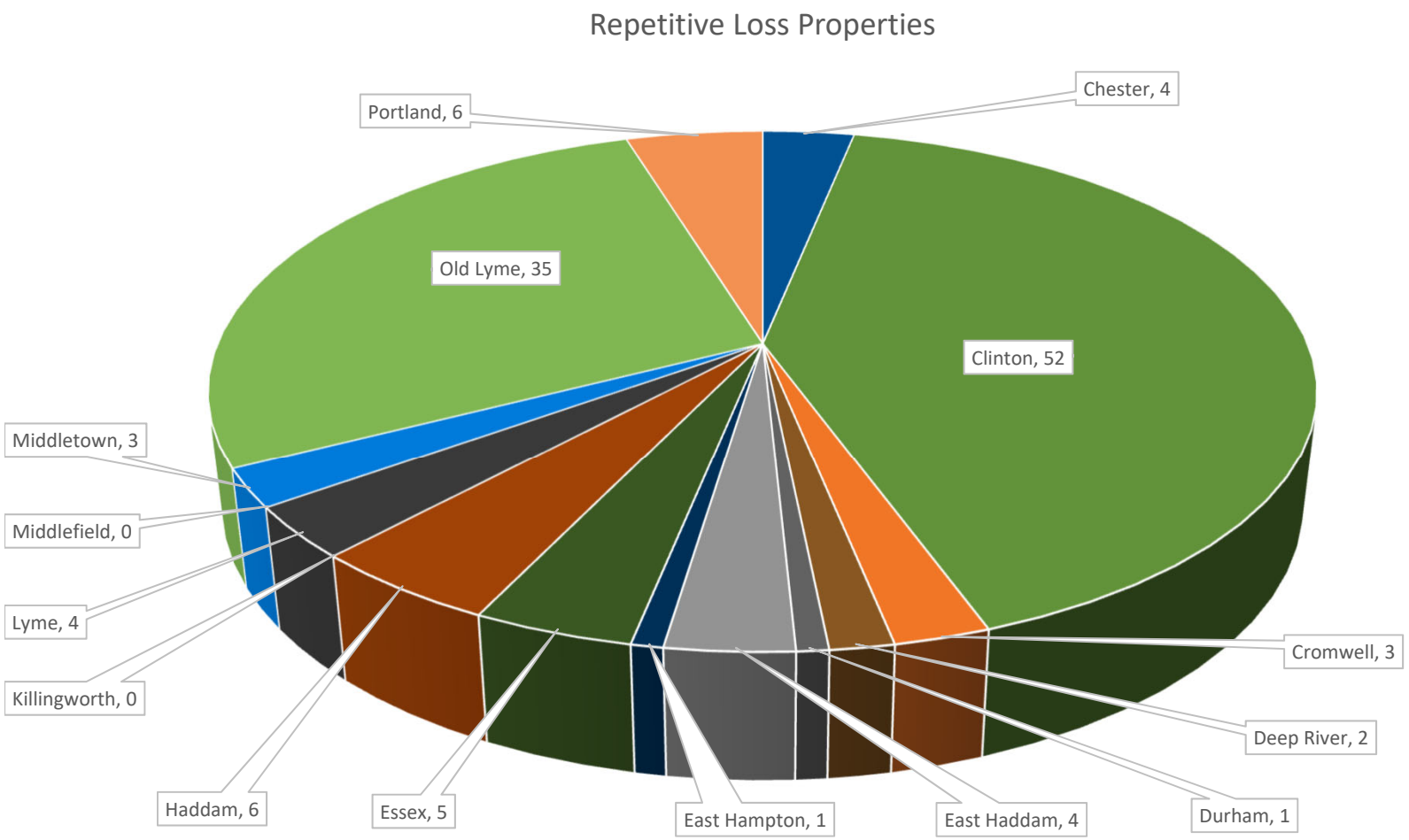
Repetitive Loss Properties



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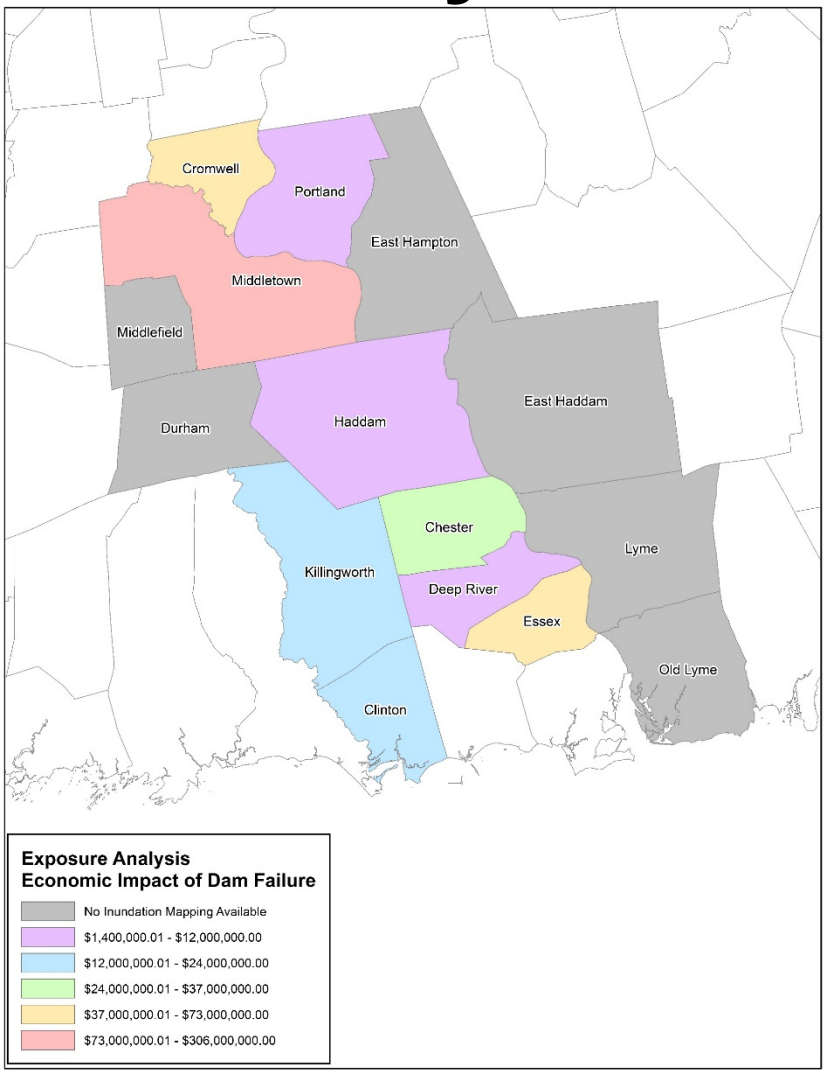
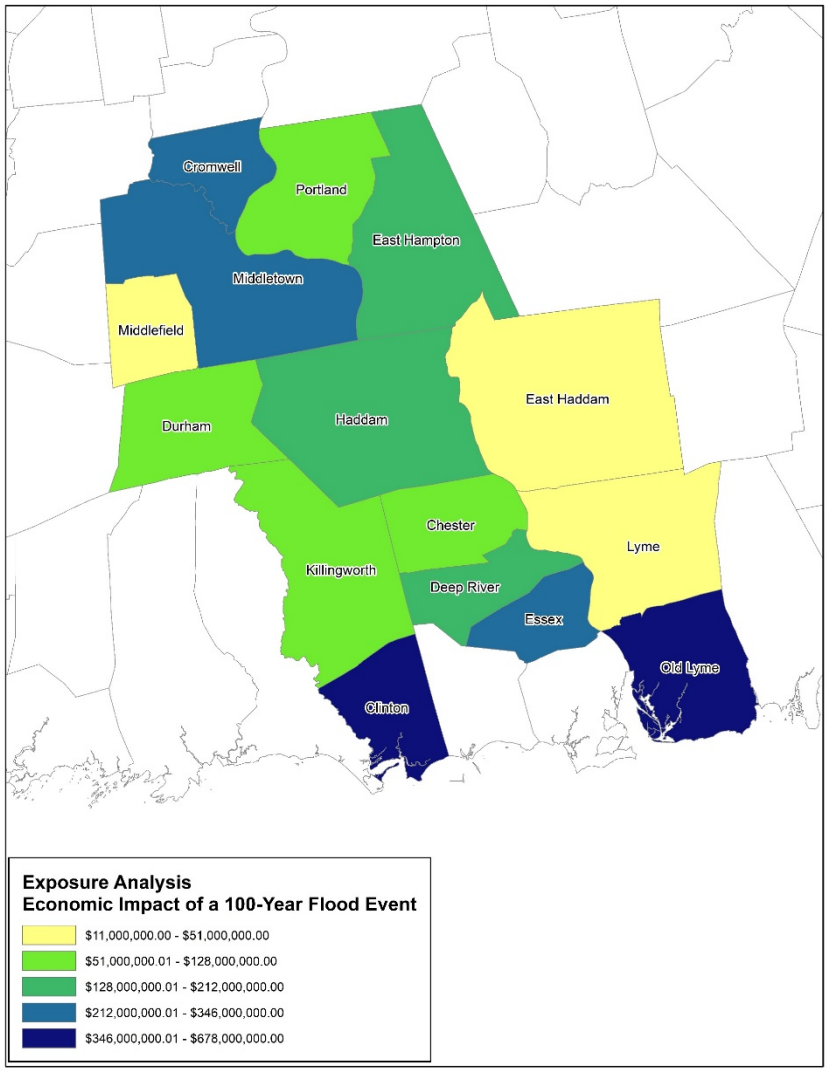
Exposure to Dam Failure Inundation and 100-year Flood Event





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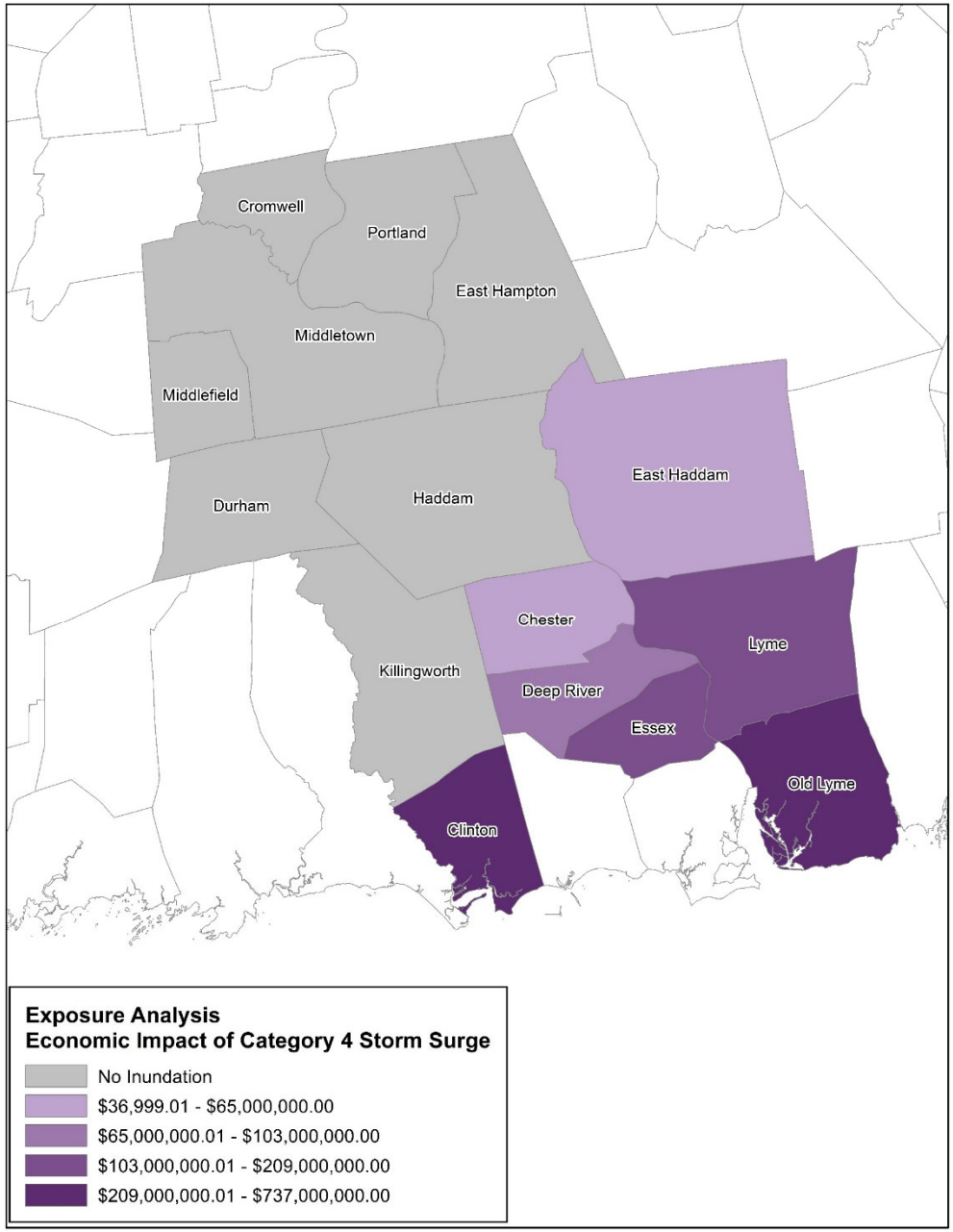
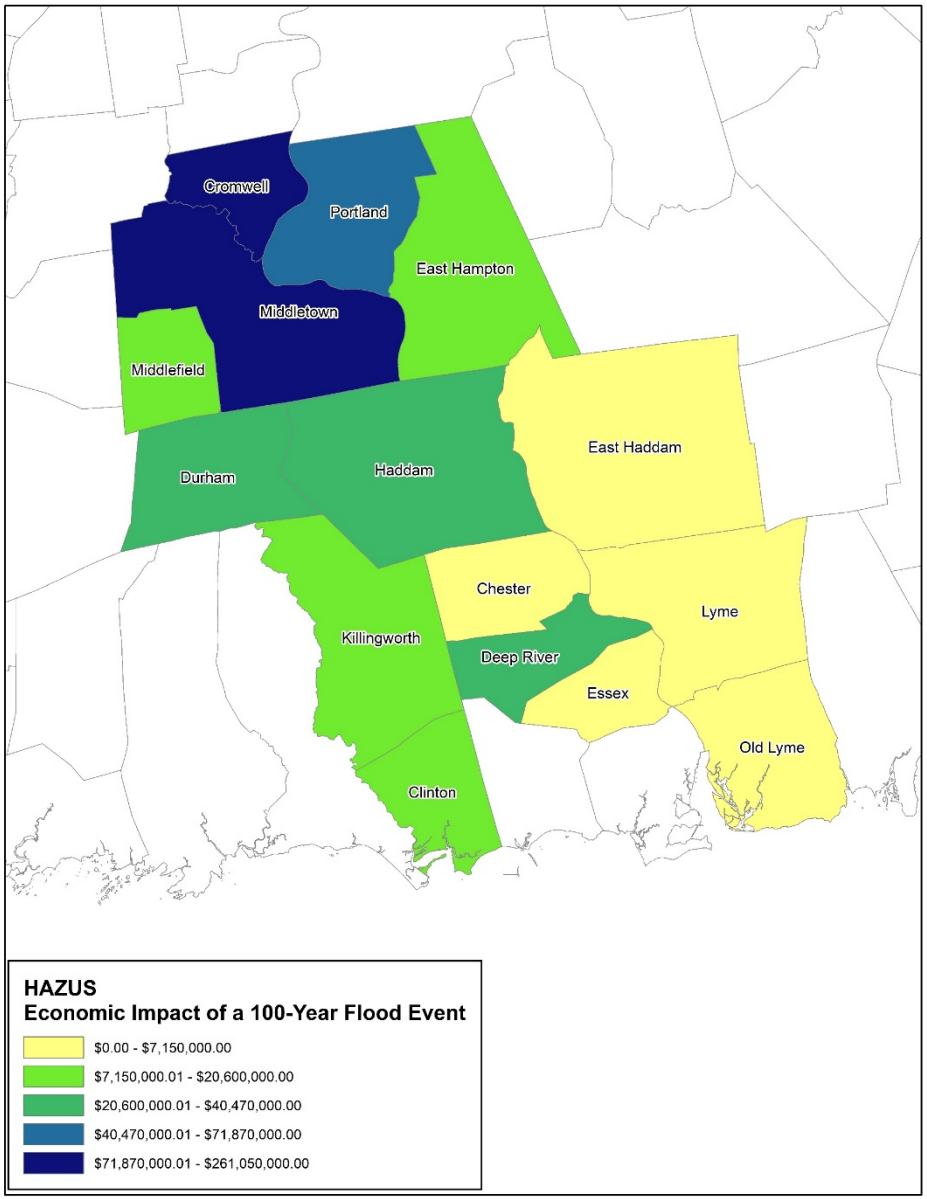
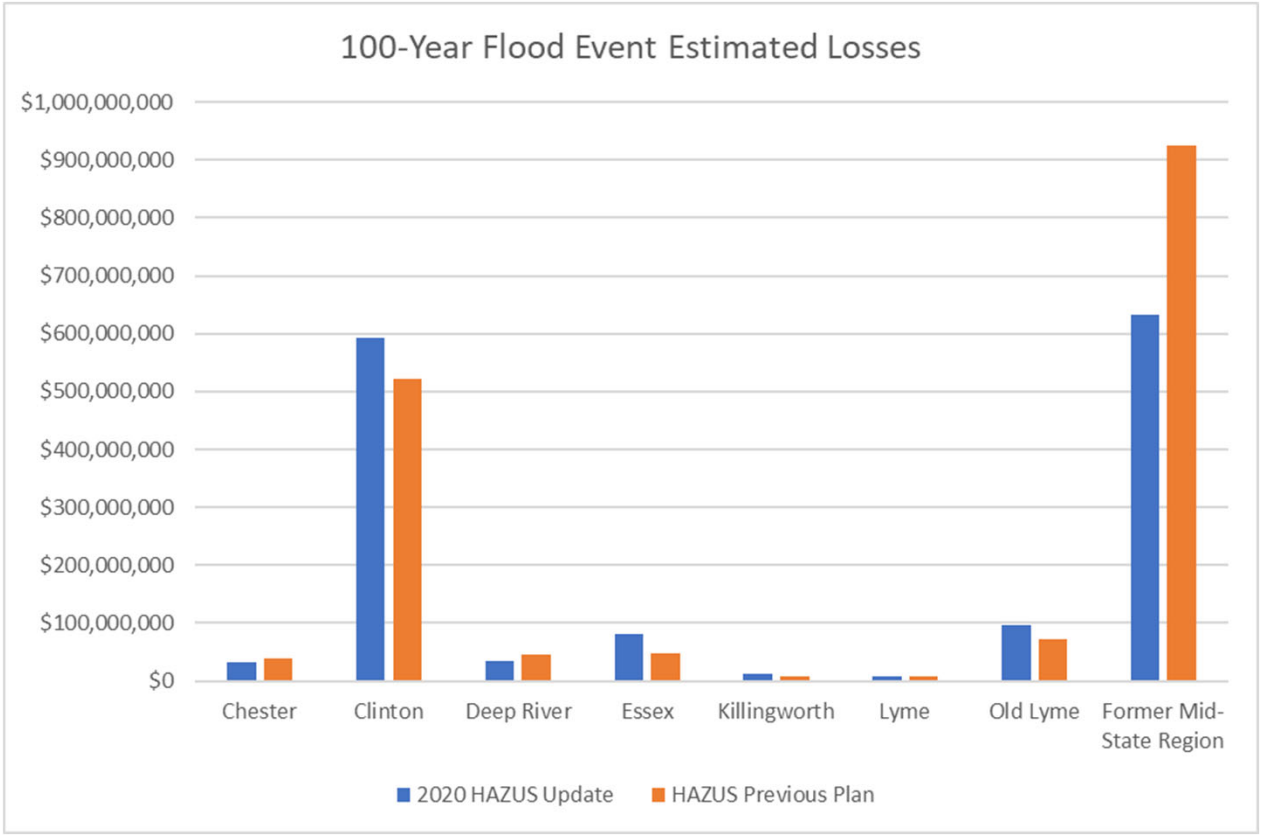
Exposure to Category 4 Storm Surge



Hazus Primary and Secondary Losses: 100-Year Flood



Hazus Flood Loss Comparison



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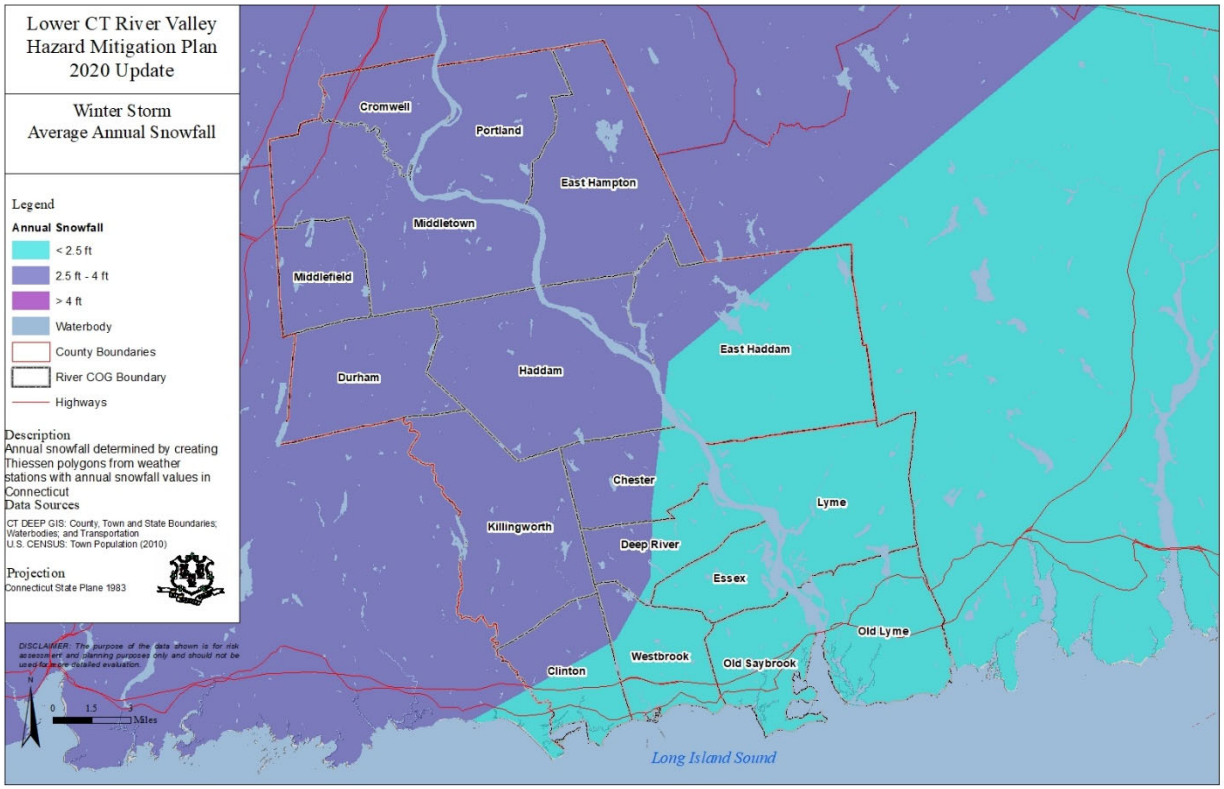
Winter Storms

- Snow
- Ice
- Nor’easters

Average Annual Snowfall



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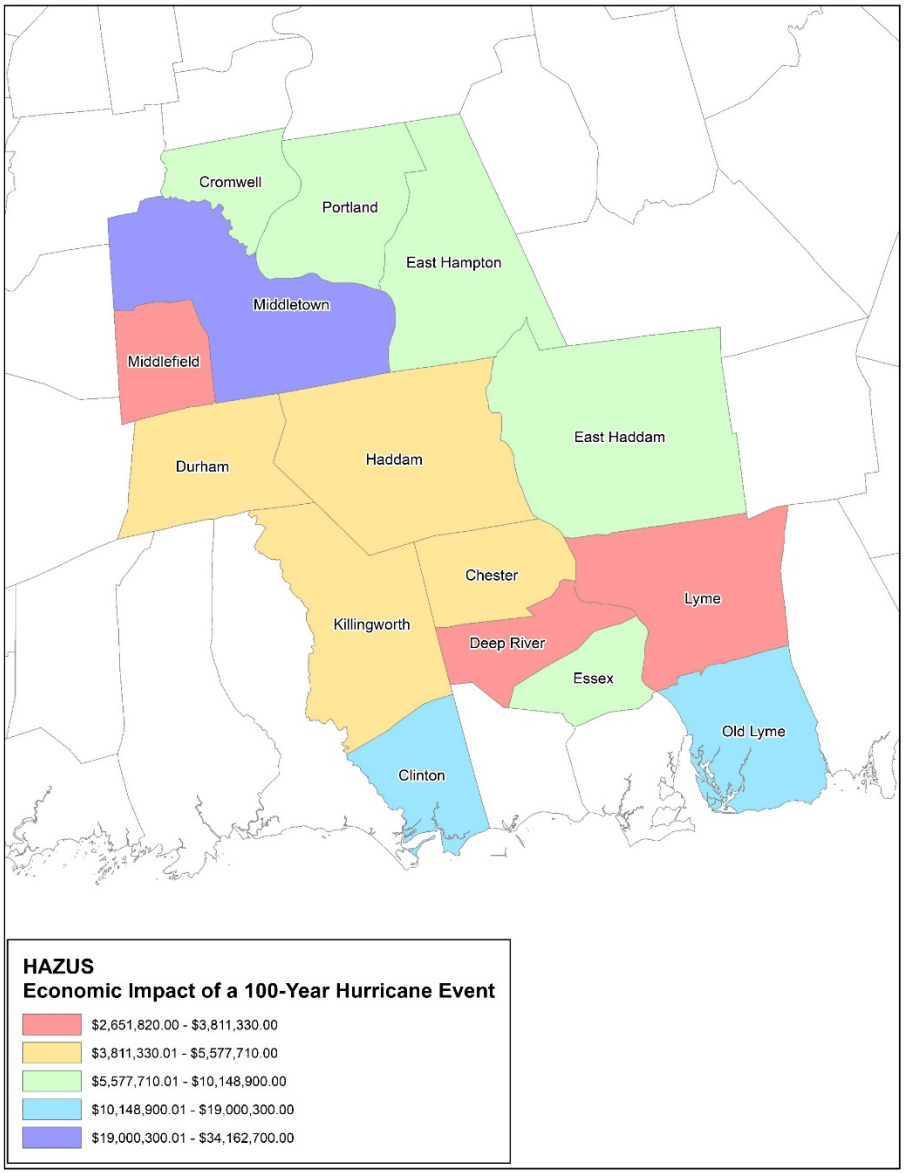
NCEI Recorded Events

- 126 recorded events in Middlesex County and 124 in New London County between 1996 and 2019
- Includes Blizzards, Ice Storms, Heavy Snow, High Wind and General Snow Events
- Annualized Events = Approximately 5.4/Yr.
- Damages for Middlesex and New London Counties are not available from NCEI

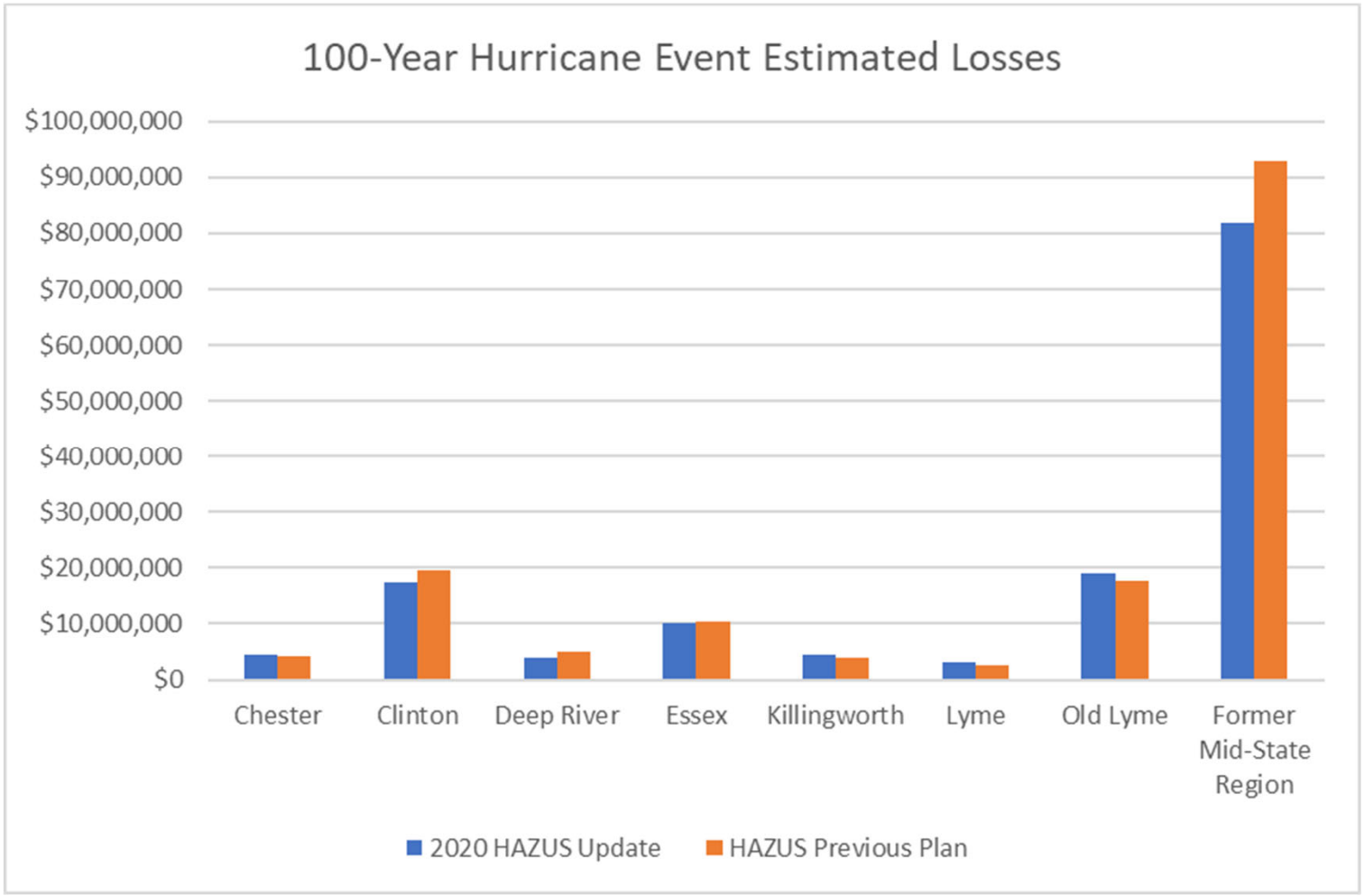
FEMA Public Assistance for Winter Weather Events 1998-2019

	PA Damages (1998-2019)	PA Annualized Damages (21 Years)
Municipality	Snow	Snow
Chester	$137,941	$6,569
Clinton	$217,260	$10,346
Cromwell	$510,869	$24,327
Deep River	$159,357	$7,588
Durham	$379,543	$18,073
East Haddam	$169,957	$8,093
East Hampton	$304,553	$14,503
Essex	$258,122	$12,292
Haddam	$307,643	$14,650
Killingworth	$324,995	$15,476
Lyme	$125,934	$5,997
Middlefield	$202,189	$9,628
Middletown	$1,733,246	$82,536
Old Lyme	$290,501	$13,833
Old Saybrook	$220,917	$10,520
Portland	$364,784	$17,371
Westbrook	$102,610	$4,886
RiverCOG	$5,810,419	$276,687

Hurricane Winds – Hazus 100-Year Event Building and Economic Losses



Hazus Hurricane Wind Losses 2020 Comparison



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Hurricane NCEI Data

- Middlesex County and New London County show 3 events from 2008 to 2020.
- Damage data in NCEI was unreliable.
- Annualized events based on this data = 0.25

Severe Weather Events

- Thunderstorms
- Hail
- Lightening
- Wind Events

NCEI Severe Weather Events and Damages: 1950 – March 2020

County	Number of Events	Number of Injuries	Number of Deaths	Property Damages	Crop Damages
Chester	9	0	0	$10,500	$0
Clinton	3	2	1	$0	$0
Cromwell	5	1	0	$8,500	$0
Deep River	7	0	0	$9,500	$0
Durham	9	0	0	$32,000	$0
East Haddam	6	0	0	$13,000	$0
East Hampton	15	0	0	$43,500	$0
Essex	8	0	0	$22,000	$0
Haddam	12	0	0	$53,500	$0
Killingworth	7	0	0	$4,000	$0
Lyme	7	0	0	$5,000	$0
Middlefield	3	0	0	$1,500	$0
Middlesex County	48	1	1	$635,000	$0
Middletown	33	0	1	$46,000	$0
Old Lyme	2	0	0	$7,500	$0
Portland	9	0	0	$84,500	$0
Total	**	4	3	$976,000	$0

***Event totals were not included because NCEI events may be counted more than once if one storm event affects multiple communities. This duplication renders totaling by county inaccurate.*

NCEI Severe Weather Annualized Events and Damages (70 Years)

Community	Annualized Events	Annualized Damages
Chester	0.15	$175
Clinton	0.05	$0
Cromwell	0.08	$142
Deep River	0.12	$158
Durham	0.15	$533
East Haddam	0.10	$217
East Hampton	0.25	$725
Essex	0.13	$367
Haddam	0.20	$892
Killingworth	0.12	$67
Lyme	0.12	$83
Middlefield	0.05	$25
Middlesex County	0.80	$10,583
Middletown	0.55	$767
Old Lyme	0.03	$125
Portland	0.15	$1,408
Total	*	$16,267

***Event totals were not included because NCEI events may be counted more than once if one storm event affects multiple communities. This duplication renders totaling by county inaccurate.*

FEMA PA Wind Damages 1998 - Present

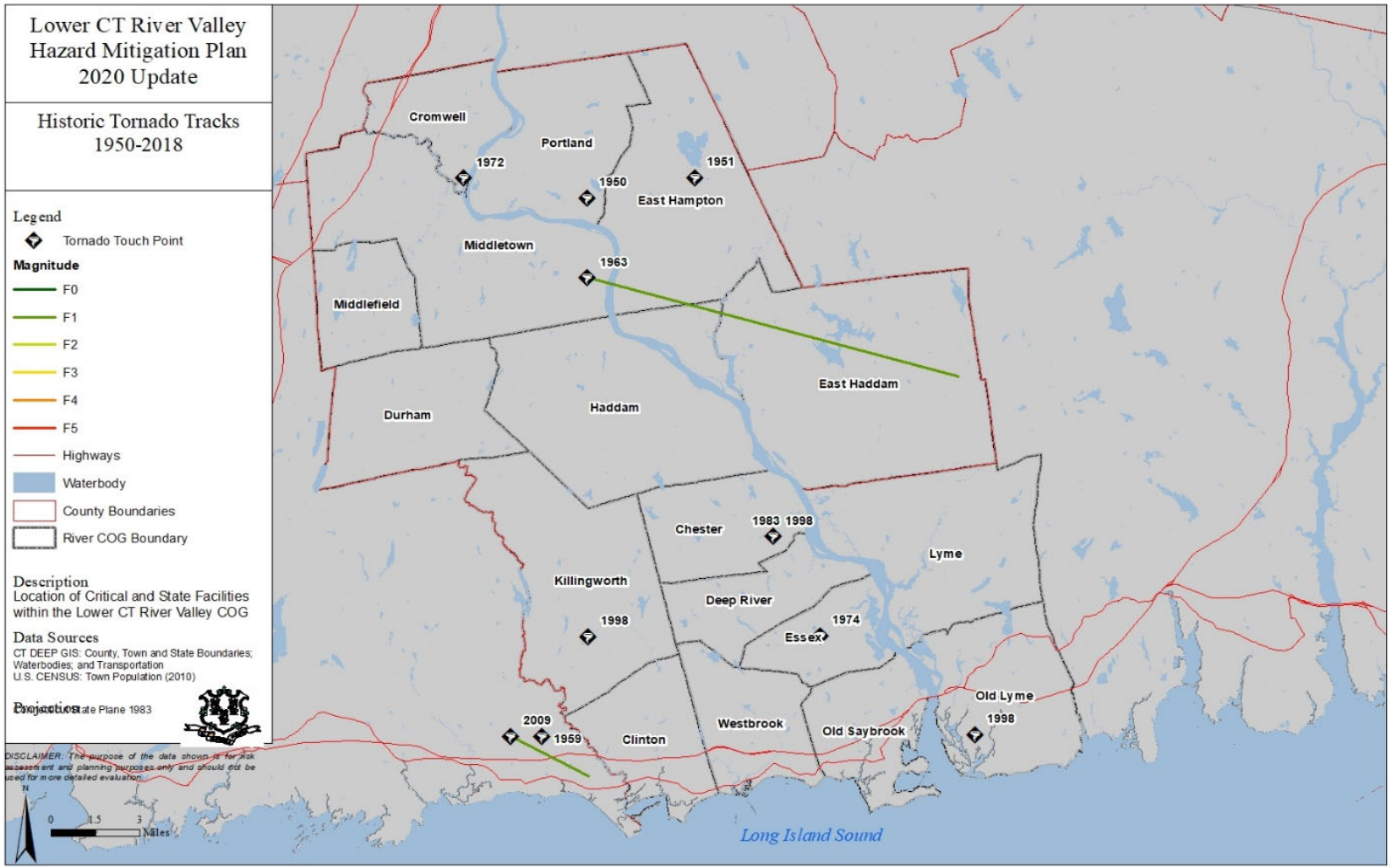
Total Damages

Municipality	Wind
Chester	$123,580
Clinton	$2,003,338
Cromwell	$75,399
Deep River	$197,653
Durham	$212,149
East Haddam	$343,275
East Hampton	$246,950
Essex	$243,836
Haddam	$256,653
Killingworth	$298,238
Lyme	$71,874
Middlefield	$104,455
Middletown	$917,110
Old Lyme	$339,793
Old Saybrook	$1,383,658
Portland	$124,503
Westbrook	$451,276
RiverCOG	**$7,393,741**

Annualized (21 Years)

Municipality	**Wind**
Chester	$5,885
Clinton	$95,397
Cromwell	$3,590
Deep River	$9,412
Durham	$10,102
East Haddam	$16,346
East Hampton	$11,760
Essex	$11,611
Haddam	$12,222
Killingworth	$14,202
Lyme	$3,423
Middlefield	$4,974
Middletown	$43,672
Old Lyme	$16,181
Old Saybrook	$65,888
Portland	$5,929
Westbrook	$21,489
RiverCOG	**$352,083**

Tornados 1950 – Present



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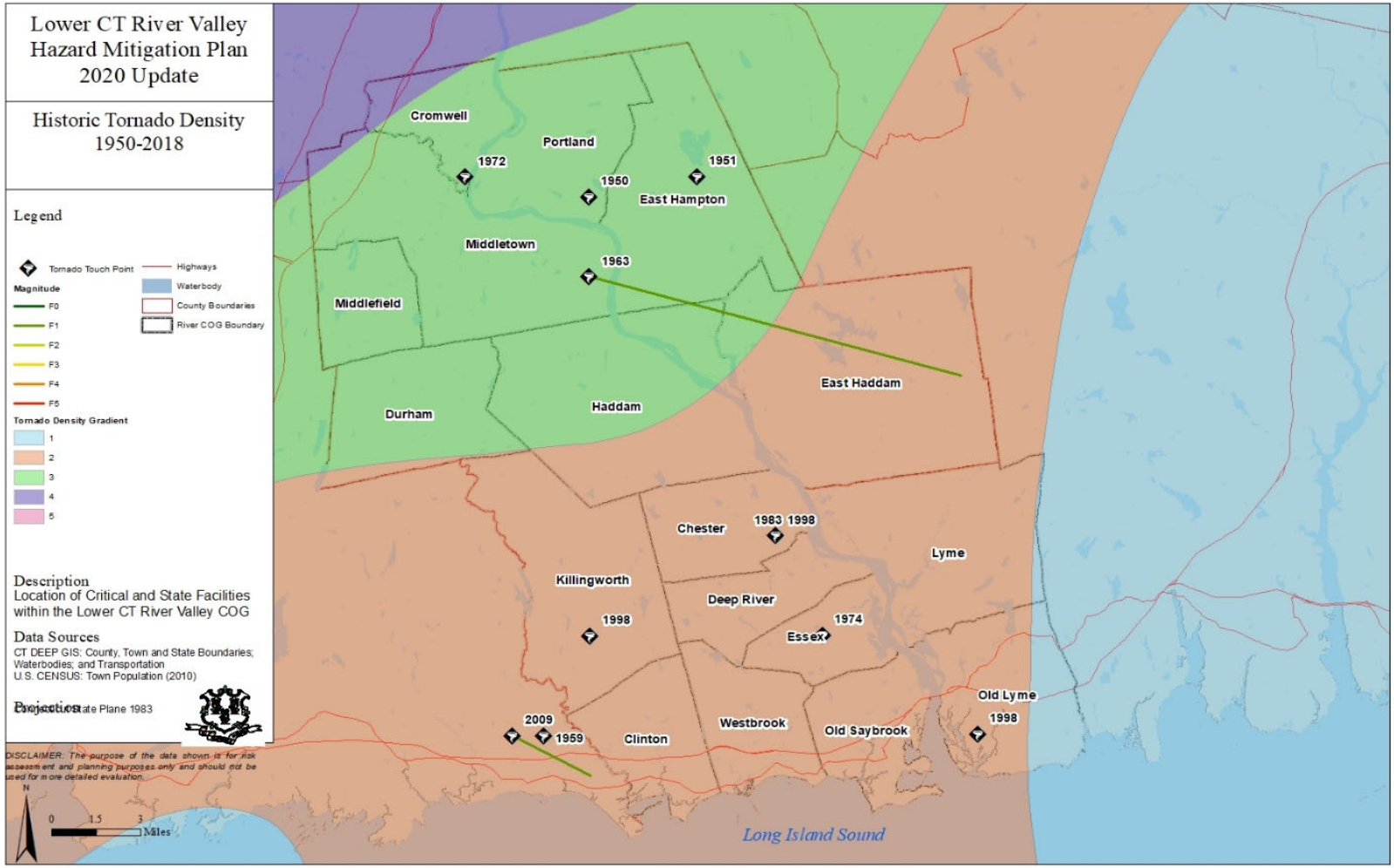
Tornado Density



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Tornado

History in the Region, 1950-2014
Source: Tornado History Project

Enhanced Fujita Scale	Date	Injuries	Fatalities	Town
EF 2	July 12, 1950	0	0	Portland
EF 3	August 21, 1951	8	0	East Hampton
EF 1	July 19, 1963	0	0	Middletown
EF 1	July 21, 1972	0	0	Middletown
EF 1	June 27 1974	0	0	Essex
EF 0	June 30, 1998	0	0	Killingworth
EF 1	June 30,1998	0	0	Chester
EF 1	June 30, 1998	0	0	Old Lyme

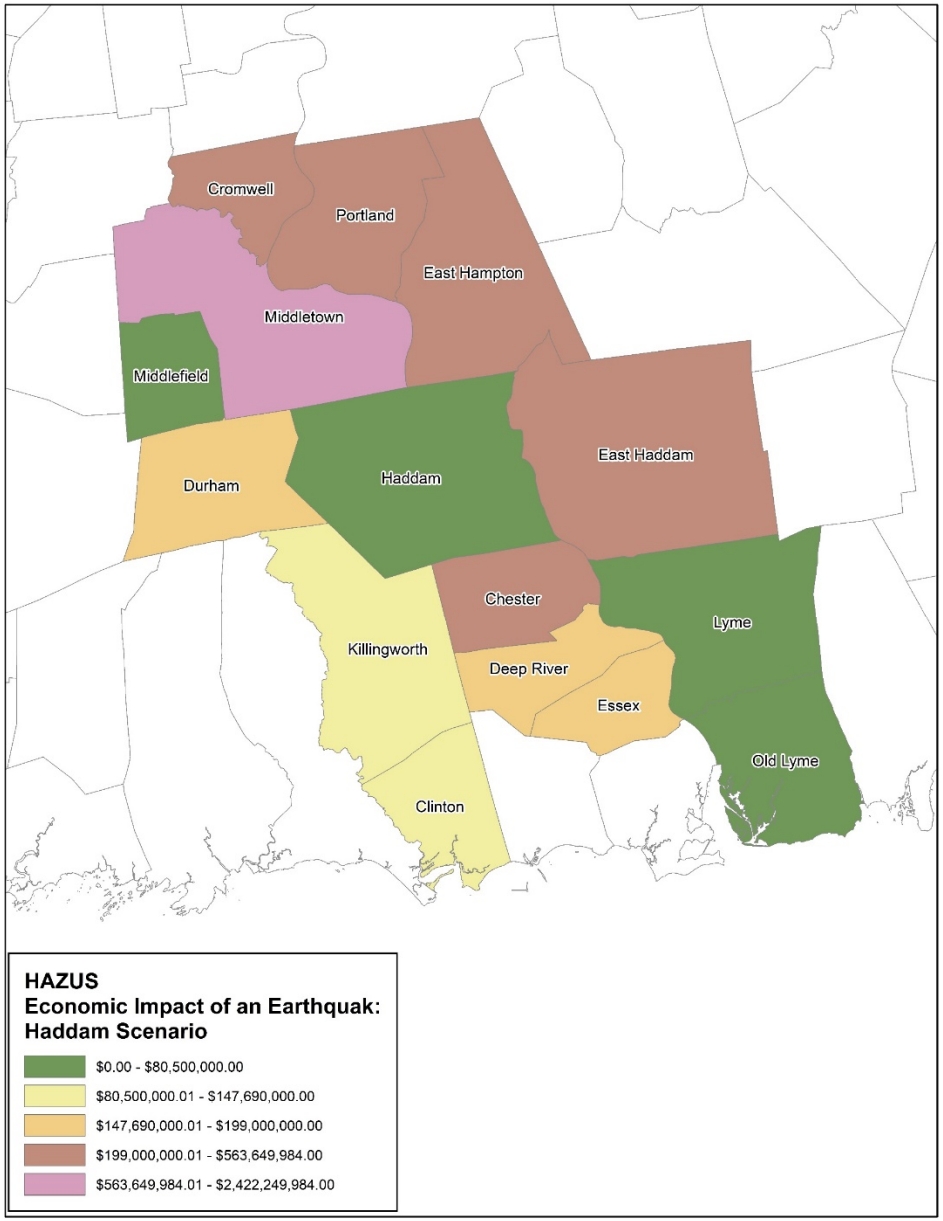
NCEI Tornado Data – 1950-Present

County	Number of Tornado Events	Number of Injuries	Number of Deaths	Property Damages
Middlesex County	9	8	0	$2,463,628.80
New London County	4	0	0	$0.00
Annualized Data				
County	**Annualized Events**	**Annualized Damages**		
Middlesex County	0.13	$36,229.84		
New London County	0.06	$0.00		

Earthquake

- Used Hazus to model the same four scenarios in the 2019 CT State Natural Hazard Mitigation Plan.
  - 1938
  - Annualized
  - Haddam
  - East Haddam
  - Portland
  - Stamford

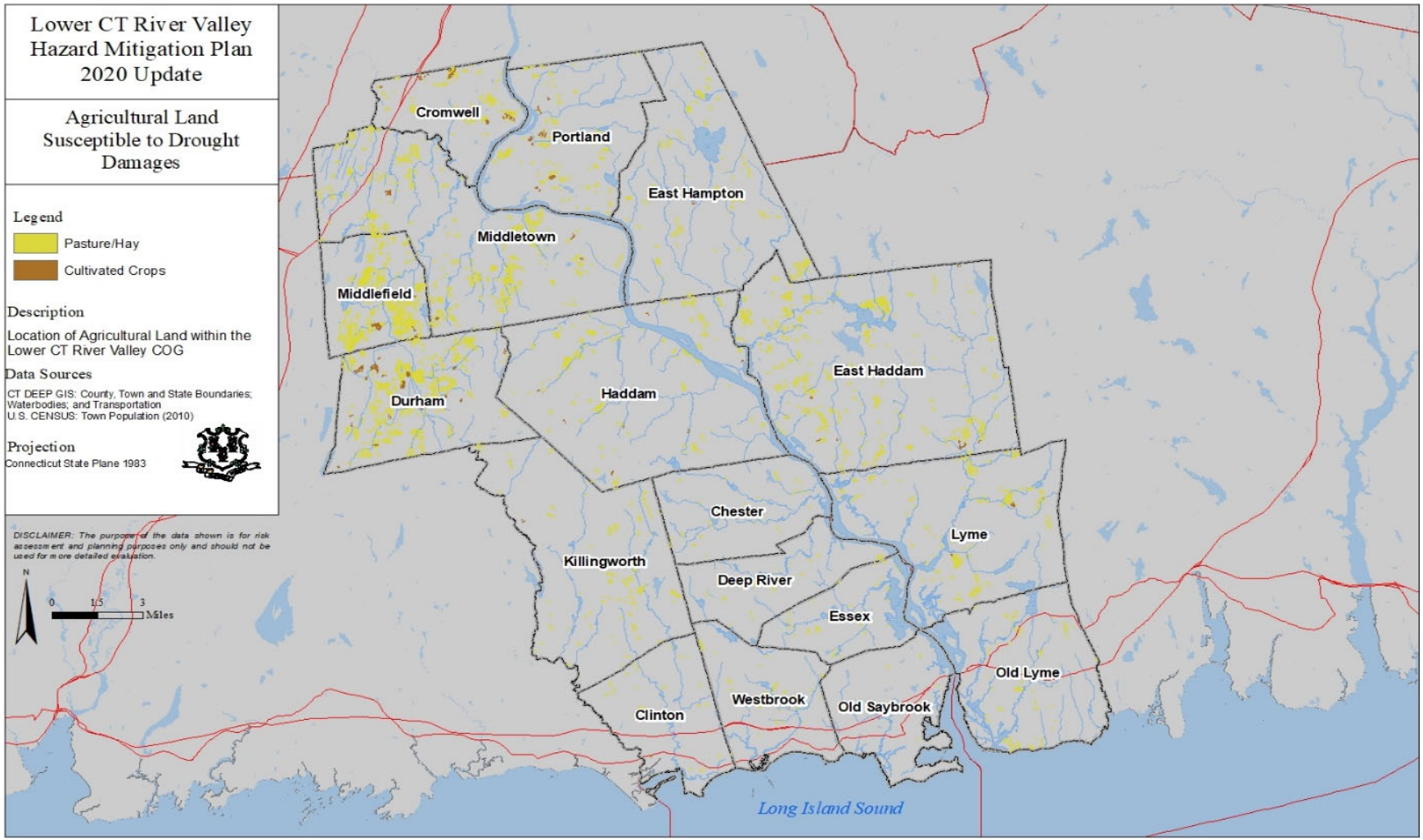
Haddam Fault Scenario



Results will be shown by each scenario for each community, including physical and economic losses.

Dewberry

Drought



Dewberry

Drought

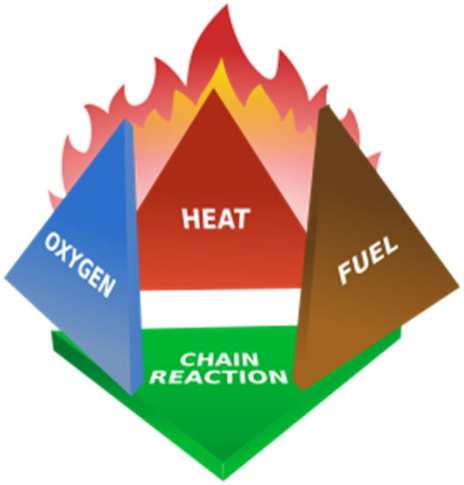
USDA Agricultural Statistics for Connecticut (2012)

County	Number of Farms	% of Total Farms in State	Land in Farms (acres)	Market Value of Products Sold	% of State Total
Middlesex	518	8.67%	24,070	$53,487,000	9.71%
New London	949	15.88%	65,159	$118,331,000	21.49%

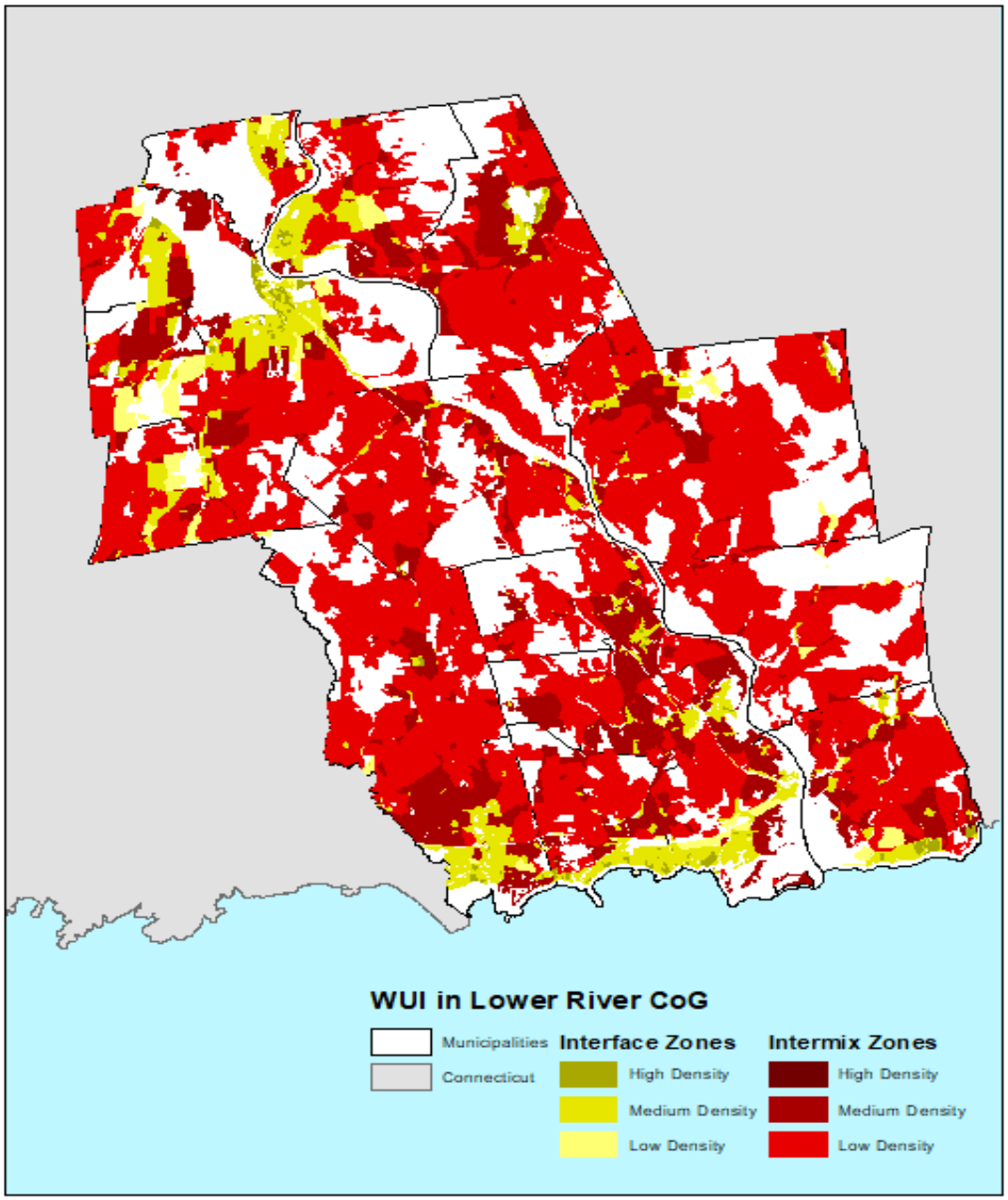
NCEI Drought Data 1996 - Present

- Six Occurrences of Drought
- Probability of Occurrence Annually = 0.27
- USDA Annualized Insured Crop Losses
  - Middlesex County = $1,069
  - New London County = $ 340,087

Wildfire



The Fire Tetrahedron
Image Provided Wikimedia Commons



Dewberry

Critical Facilities In Wildfire Zones

Facility	All Critical Facilities	# within Intermix	# within Interface	Total Facilities At Risk
Correctional Institutions	1	0	0	0
EMS	38	15	15	30
Fire Stations	42	16	18	34
Gas Station with Generator	8	6	2	8
Health Departments	10	2	7	9
Law Enforcement	18	4	9	13
Municipal Solid Waste	25	15	0	15
Storage Tank Farm	3	0	0	0
Total for RiverGOG	**145**	**63**	**53**	**116**

Total Parcels in Intermix and Interface Zones

County	Total Parcels	Parcels Intersecting Intermix	Parcels Intersecting Interface	Total Parcels At Risk
Chester	1,814	1,518	203	1,721
Clinton	6,961	2,753	2,602	5,355
Cromwell	6,108	505	1,035	1,540
Deep River	2,410	1,809	521	2,330
Durham	3,269	2,283	842	3,125
East Haddam	6,008	2,301	1,204	3,505
East Hampton	62,21	4,519	1,319	5,838
Essex	3,483	2,369	1,020	3,389
Haddam	4,362	108	343	451
Killingworth	2,859	2,678	46	2,724
Lyme	1,727	1,306	142	1,448
Middlefield	2,298	1,166	837	2,003
Middletown	13,486	2,888	5,814	8,702
Old Lyme	5,637	2,802	2,653	5,455
Portland	4,872	2,130	2,362	4,492
Total	65,294	31,135	20,943	52,078

Total Exposure in Intermix and Interface Zones

County	Total Value	Value Intersecting Intermix	Value Intersecting Interface	Total Value At Risk
Chester	$422,085,650	$358,113,810	$44,852,850	$402,966,660
Clinton	$1,389,179,380	$617,873,460	$481,764,570	$1,099,638,030
Cromwell	$1,293,626,844	$126,195,515	$221,771,598	$347,967,113
Deep River	$603,294,610	$455,016,810	$107,706,970	$562,723,780
Durham	$1,049,359,092	$744,552,564	$242,022,228	$986,574,792
East Haddam	$707,783,110	$592,475,310	$72,667,800	$665,143,110
East Hampton	$1,095,226,906	$810,512,449	$226,294,687	$1,036,807,136
Essex	$956,570,700	$576,449,600	$354,726,000	$931,175,600
Haddam	$805,585,848	$712,528,258	$55,248,550	$767,776,808
Killingworth	$682,345,090	$650,302,310	$10,771,010	$661,073,320
Lyme	$623,325,590	$528,506,090	$34,088,100	$562,594,190
Middlefield	$387,668,900	$196,760,000	$141,840,800	$338,600,800
Middletown	$7,620,906,459	$714,084,545	$5,794,447,198	$6,508,531,743
Old Lyme	$1,553,824,980	$853,813,410	$643,183,320	$1,496,996,730
Portland	$1,298,645,220	$594,528,550	$618,619,750	$1,213,148,300
Total	$20,489,428,379	$8,531,712,681	$9,050,005,431	$17,581,718,112

Wildfire Probability and Loss Estimation

- No wildfire incidents or damages are listed in NCEI.
- No FEMA PA damages are related to wildfire.
- Will need local incidents and damages to complete.
- State level data is available from DEEP and the NFS.

“Other Hazards”

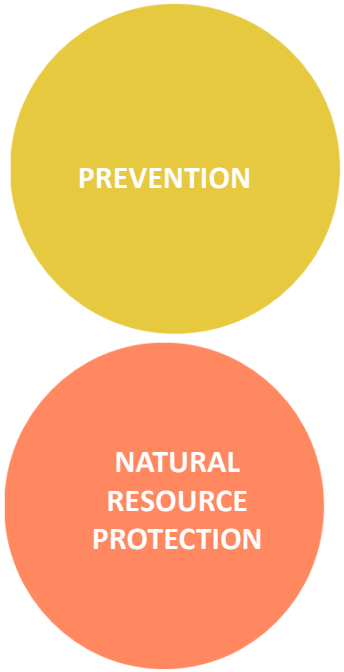
- Extreme Temperatures
- Tree Damage
- Invasive Species

Analysis is underway and will be primarily qualitative.

Analysis will focus on future steps to quantify the problem and strategies and actions to mitigate current hazard issues.

Review of Goals, Objectives, Strategies and Actions

Regional Goals and Objectives



Goal 1: Promote implementation of sound flood management and other natural hazard mitigation principals on a regional and local level.

- **Objective for Goal 1:** To promote the development, improvement and implementation of programs, policies, regulations and emergency services that result in the reduction of long-term risks to life and property.

Note: Covers future development through policy, planning, regulation, emergency services, and environmental strategies.

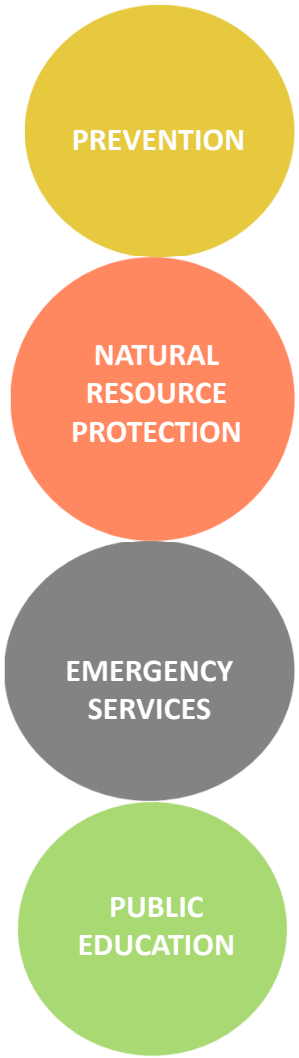
Regional Goals and Objectives

Goal 2: Implementation of effective natural hazard mitigation projects at the regional and local level regional and local level

- **Objective for Goal 2:** To enhance the ability of RiverCOG, other regional entities, and local communities to reduce or eliminate risks to life and property from natural hazards through cost-effective hazard mitigation projects, including avoidance

Note: Covers infrastructure and building related projects – the existing built environment.

Regional Goals and Objectives



Goal 3: Increase research, planning and outreach activities for the mitigation of natural hazards on a regional and local level.

Objective for Goal 3: To increase general awareness of the region's natural hazards and encourage State agencies, local communities, and the general public to be proactive in taking actions to reduce long-term risk to life and property.

Note: Covers the people component of mitigation via outreach and education, and integration with other planning and continuous improvement through increase research.

Update Mitigation Actions

Review prior actions

- “Ongoing” and “continue” are not allowed anymore.
- Consolidate things like culvert or outreach project from many, to one overarching per category.

New Mitigation Actions

- Should be achievable within five years (i.e. “design” rather than “construct”).
- Should include regional and state initiatives.

Regional Strategies and Initiative

RiverCOG Regional Mitigation Strategies

Activity #	Goal/Strategy	Activity Description	Lead Agency	Est. Cost*	Potential Funding Sources	Timeframe for Completion	Hazard(s) to be Addressed										Priority Level
							Severe Weather	Wind \ Tornado	Extrememe Haet and Cold	Winter Storm	Flood	Tree Damage and Invasives	Wildland Fire	Drought	Earthquake	Climate Change	
1		**NFIP Community Rating System Support** Encourage member municipalities to participate in the National Flood Insurance Program's Community Rating System by hosting an information workshop.	RiverCOG								X					X	
2		Hazard Mitigation Plan Updates Support member municipalities with subsequent updates the regional natural hazard mitigation plan by tracking activities, cataloguing updated hazard information, and seeking additional grant funding as needed.	RiverCOG				X	X	X	X	X	X	X	X	X	X	
3		Implementation Support Facilitate multi-jurisdictional collaboration by hosting annual mitigation meetings.	RiverCOG				X	X	X	X	X	X	X	X	X	X	
4		Stormwater Management Support Encourage all municipalities in the region to adopt regulations that incorporate or refer to recommended practices from the most current Connecticut Stormwater Quality Manual, Connecticut Guidelines for Erosion and Sedimentation Control and, in particular, those that promote low impact development and green infrastructure techniques. This will encourage development that is in harmony with natural drainage systems.	RiverCOG								X					X	

Regional Strategies and Initiatives

Refer to Handout

Breakout Sessions

Local Strategies and Actions

- Instructions for Breakout Sessions
  - Set up a meeting or call with your local core team.
  - Review regional strategies and note the ones you would like to participate in.
  - Review your 2020-2025 Strategies Table and provide concurrence or comments, subtractions, modifications and additions.
  - Call back in to the original WebEx using the same instructions with any questions or comments if you have them.
  - Meeting restarts at **3:00** for wrap up and next steps on the original WebEx link and phone line.

Next Steps

- Return marked up Regional Strategy document and Local Strategy document to Scott and Dave at schoquette@dewberry.com and dmurphy@mminc.com.
- Mitigation strategy ranking and evaluation
- Completion of Annexes
- Public and stakeholder review
- Next meeting(s)
- State and FEMA review submittals

Thank you!! Please Stay Safe!!

Lower Connecticut River Valley Council of Governments
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