

Maine Floodplain Checklist

Town of St George

Maine Flood Resilience Checklist

February 29, 2020


Risk and Vulnerability		Yes		No		N/A	Notes
1	(a) Has your community identified and documented the historical geographic extent and impacts and (b) considered the potential future extent and impacts of the following coastal hazards?	a	b	a	b		
	• Coastal and nuisance flooding	X			x		Flood Road hazards identified
	• Storm surge	xx					Maps available
	• Sea level rise	x			x		Maps available
	• Coastal erosion and/or shoreline change	x		x			Need additional data
2	Are potential sea level rise, hurricane, and storm surge inundation scenarios determined for your community ¹ ?	X					Maps/data available Additional data required
3	Does your community have GIS mapping and analysis capabilities or access to GIS services?		x				Place this information on Town web site
4	Has the potential future extent of coastal hazards been identified, mapped, and considered in your community's planning?			x			Existing hazard information has not yet been used for local planning
5	Has your community adopted a surveyed or GIS-based boundary delineating the highest annual tide (HAT) line for Shoreland Zoning?	X					
6	Does your community document and archive the following information related to flooding, storms, and erosion?						
	• Geographic extent of impacts	x					Road flooding documented
	• Photographs of impacts	X					
	• Water levels			X			
	• Relative location of damage	X					
	• Date of damage			x			
	• Damage type	x					

	• Cause of damage	x				
	• Damage costs			x		
	• Repetitive loss properties, as defined by the National Flood Insurance Program	x				
7	Has your community conducted vulnerability assessments of the following categories based on (a) existing and (b) potential future conditions?	a	b	a	b	Marshall Road area
	• Critical facilities	x			x	

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Risk and Vulnerability		Yes		No		N/A	Notes
	• Critical infrastructure	x			x		Citizen involvement is needed to identify areas
	• Coastal properties (public and private)			x	x		
	• Society and the economy (local population, historical and cultural resources, downtown areas, business districts, tourism areas, etc.)			x	x		
	• Natural Environment			x	x		
8	Does your community (a) conduct assessments and evaluations of local flood hazards and associated risks and, if so, (b) is that information shared with the following relevant individuals, groups, and programs?	a	b	a	b		
	• Planning staff	x	x				
	• Code enforcement	x	x				
	• Public works	x	x				
	• Emergency managers and first responders	x	x				
	• Elected officials	x		x			Small town /limited capacity
	• Municipal budget personnel		x	x			Costs are an issue
	• Chamber of Commerce / business community		x	x			
	• Municipal commissions		x	x			
	• Community members		x	x			
	• Regional Planning Organization	x		x			

	<ul style="list-style-type: none"> State programs and agencies (MPAP, MFMP, MGS, MEMA) 						
9	<p>(a) Are coastal storm and flood hazard frequencies and durations established for your community² and (b) has your community determined what an acceptable level of risk is with respect to those hazards?</p>	<u>a</u>	<u>b</u>	<u>a</u>	<u>b</u> <i>x</i>		This is a future task that needs to be addressed
10	Does your community have working relationships with technical resources such as government programs, universities, or professionals that provide assistance with flood hazards, risk, vulnerability, and resiliency?	x					Knox County Emergency Management



Critical Infrastructure and Facilities		Yes		No		N/A	Notes
1 	Does your community have a detailed inventory, including elevations, of the following critical facilities and infrastructure that includes information about the location of assets in relation to (a) existing and (b) potential future flood hazard areas ³ ?	a	b	a	b		
	• Wastewater treatment and transport system (plant, pipes, and pump stations)			x	x		
	• Stormwater system			x	x		Not determined
	• Water treatment and transport system (plant, pipes, and pump stations) and drinking water wells	x			x		
	• Power grid (substations)			x	x		
	• Energy network (oil, natural gas, etc.)			x	x		
	• Public roads	x			x		
	• Evacuation routes	x			x		
	• Culverts	x			x		
	• Bridges	x			x		
	• Dams					x	
	• Piers or wharves	x			x		
	• Railway infrastructure					x	
	• Town/City Hall	x			x		
	• Critical record storage building(s)	x			x		
	• Police station(s)					x	
	• Fire station(s)	x			x		
	• Public works facilities	x			x		
	• Emergency operation center(s)	x			x		

³ -year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) and those mapped as subject to

	• Communications office(s)	x			x		
	• School(s)	x			x		
	• Hospitals, urgent care facilities, and health centers (e.g., nursing homes)					x	
	• Emergency shelters	x			x		
	• Transportation centers (e.g., bus station, airport, etc.)					x	
	• Facility of regional or local significance (e.g., harbor,	x			x		



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Critical Infrastructure and Facilities		Yes		No		N/A	Notes
	marina, commercial dock, etc.)	x			x		
	• Gas and diesel tanks at marinas/working waterfronts	x			x		
2	Do the following critical infrastructure and facilities experience problems associated with flooding?						
	• Wastewater treatment and transport system (plant, pipes, and pump stations)			x			
	• Stormwater system						Unknown at this time
	• Water treatment and transport system (plant, pipes, and pump stations) and drinking water wells			x			
	• Power grid (substations)			x			
	• Energy network (oil, natural gas, etc.)			x			
	• Public roads	x					Flooding occurs on some roads
	• Evacuation routes	x					In the vicinity of Route 131
	• Culverts	x					
	• Bridges			x			Martinsville- state road?
	• Dams			x			
	• Piers or wharves	x					

	<ul style="list-style-type: none">Railway infrastructure			x		
	<ul style="list-style-type: none">Facility of regional or local significance (<i>e.g.</i>, harbor, marina, commercial dock, <i>etc.</i>)	x			Lighthouse	
	<ul style="list-style-type: none">Gas and diesel tanks at marinas/working waterfronts		x			
3 	(a) Are maps or GIS used to show the location and accessibility of critical infrastructure and facilities in relation to flood hazard areas ⁴ and (b) is that information publicly available?	<u>A</u> <u>x</u>	<u>b</u>	<u>a</u> <u>x</u>	<u>b</u>	GIS maps are available
4 	Are there plans and backup systems in place for critical infrastructure and facilities to ensure continuation of function and services during and after flood hazard events?	x				Plans in place route 131 by Skoglands
5	Has your community assessed or considered the amount of time that would be needed to return damaged infrastructure and facilities to a functional condition post-hazard event?		x			No written plan available
6	(a) Do critical infrastructure and facilities' maintenance plans and budgets account for adaptation/mitigation actions and (b) post-	<u>a</u>	<u>b</u>	<u>a</u>	<u>b</u>	

Critical Infrastructure and Facilities		Yes		No		N/A	Notes
	hazard repairs and cleanup?			x	x		
7	(a) Are maintenance, repair, and upgrade activities and associated costs for infrastructure and facilities documented and tracked? (b) Are costs associated with flooding identified, documented, and tracked?	<u>a</u> <u>X</u>	<u>b</u>	<u>a</u>	<u>B</u> <u>x</u>		Event related and maintenance is tracked
8	Do capital improvement plans for critical infrastructure and facilities consider (a) existing and (b) potential future flood hazards?	<u>A</u> <u>X</u>	<u>b</u>	<u>a</u>	<u>B</u> <u>x</u>		
9	Has your community discussed at what point it will stop repairing and upgrading existing critical infrastructure and facilities to withstand flooding?			x			

⁴ -year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) and those mapped as subject to

10	<p> (a) Do community plans include recommendations for abandonment, relocation, or adaptation/protection of critical infrastructure and facilities located in flood hazard areas³?</p> <p>(b) Have funding opportunities or mechanisms to implement those actions been identified?</p>	<u>a</u>	<u>B</u> <u>X</u>	<u>a</u>	<u>B</u> <u>X</u>	
11	<p> Are critical infrastructure and facilities that are located in flood hazard areas⁵ elevated or floodproofed to at least the 0.2% chance (<i>i.e.</i>, 500-year) flood or 3 feet above the 1% chance (<i>i.e.</i>, 100-year) base flood elevation?</p>			x		
12	When planning new critical infrastructure and facilities, does your community consider existing and potential future impacts of the following coastal hazards?					
	• Coastal and nuisance flooding		X			
	• Storm surge		X			
	• Sea level rise		X			
	• Coastal erosion and/or shoreline change		x			

⁵ -year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) and those mapped as subject to

Community Planning		Yes	No	N/A	Notes
1	Does your community have a shared vision of 'community resilience'?		x		Requires additional community discussion and involvement
2	Does your community have plans that address the following?				
	<ul style="list-style-type: none"> Coastal hazards 	x			
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Coastal and nuisance flooding 	x			These areas are addressed in Shoreland zoning
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Storm surge 	x			
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Sea level rise 	x			
	<ul style="list-style-type: none"> <ul style="list-style-type: none"> Coastal erosion and/or shoreline change 	x			
	<ul style="list-style-type: none"> Adaptation and mitigation strategies and actions addressing coastal hazards 		x		
	<ul style="list-style-type: none"> Community resilience and specific strategies and actions to increase resilience 		x		
	<ul style="list-style-type: none"> Open space preservation and management 	x			Resource maps available to show wetlands and other features
	<ul style="list-style-type: none"> Beach management 		x		
	<ul style="list-style-type: none"> Floodplain management 	x			
3	Does your community have the following personnel on staff or on retainer?				
	<ul style="list-style-type: none"> Professional planner 	x			Planning Services are available to the Town
	<ul style="list-style-type: none"> Code enforcement officer 	x			
	<ul style="list-style-type: none"> Certified Floodplain Manager (CFM®) 		x		
	<ul style="list-style-type: none"> Building inspector 		x		
	<ul style="list-style-type: none"> Engineer 		x		
	<ul style="list-style-type: none"> Public works director 	x			

	<ul style="list-style-type: none">Plumbing inspector	x			
	<ul style="list-style-type: none">Emergency manager	x			
4	Does your community's floodplain ordinance exceed minimum State standards?		x		Ordinance meets minimum standards
5	Does your community's floodplain ordinance apply to flood hazard areas that extend (a) vertically and (b) horizontally beyond those identified as the Special Flood Hazard Area (SFHA) or 100year floodplain depicted on your community's Flood Insurance Rate Map (FIRM)? ⁶	<u>a</u>	<u>B</u> <u>x</u>	<u>a</u>	<u>B</u> <u>x</u>

Community Planning		Yes		No		N/A	Notes
6	Do your community's land use regulations limit development in areas subject to (a) existing and (b) potential future flood hazards?	<u>A</u> <u>x</u>	<u>b</u>	<u>a</u>	<u>B</u> <u>x</u>		Floodplain management ordinance
7	Does your community have policies that limit public investment in areas vulnerable to (a) existing and (b) potential future flood hazards? ⁷	<u>a</u>	<u>b</u>	<u>a</u> <u>x</u>	<u>b</u> <u>x</u>		
8	Are frequently flooded areas in your community zoned or planned for open space or prioritized for acquisition or easements?			x			
9	Has your community conducted a build-out analysis based on land use regulations?			x			
	Have the results been compared to the spatial extent of (a) existing and (b) potential future flood hazard areas?	<u>a</u>	<u>b</u>	<u>A</u> <u>x</u>	<u>b</u> <u>x</u>		
10	Do your community's land use regulations encourage the use of green infrastructure approaches for stormwater management?			x			
11	(a) Does your community offer economic incentives (e.g., development fee waivers) for property owners that willingly	<u>a</u>	<u>b</u>	<u>A</u> <u>x</u>	<u>B</u> <u>x</u>		

⁶ Freeboard is an example of a vertical extension of the SFHA and the 500-year floodplain and areas of potential sea level rise inundation are examples of horizontal extensions of the SFHA.

⁷ Public investment in functionally water-dependent uses, as defined in Title 38, M.R.S.A, is exempt.

	implement flood risk reduction practices on their property (e.g., freeboard outside of regulatory floodplain, elevating structure above minimum freeboard requirement, etc.)? (b) If so, are the incentives advertised?					
12	Does your community have a comprehensive plan?	x				
13 ■	Does your community have a MEMA- and FEMA-approved hazard mitigation plan that addresses preparedness for (a) existing and (b) potential future flood hazards?	A x	b	a x	B x	
	Does the plan appear in the county hazard mitigation plan?	x				
14 ■	Does your community have a hazard/disaster education and outreach plan?			x		
	• Community plan			x		
	• School plan			x		
15 ■	Are clearly marked signs placed throughout your community indicating the following and does your community provide					

Community Planning		Yes		No		N/A	Notes
	related information to residents and businesses prior to a possible flood event?						
	• Evacuation routes	x					Need to check sign placement
	• Evacuation pick-up locations			x			
	• Shelter locations for people and for pets/farm animals	x					Shelter is available at the school
16 ■	Are high water mark, storm surge, and/or potential future flood elevation signs posted in your community in publicly visible areas?			x			
17	(a) Does your community participate in flood hazard reduction programs (e.g., National Flood Insurance Program (NFIP), FEMA's Community Rating System, etc.)? (b) If so, is your community in good standing with those programs?	a	b	A x	B x		
18 ■	Is your community designated as StormReady by the National Weather Service?			x			
19 ■	Has your community adopted the most recent Maine Uniform Building and Energy Code (MUBEC)?			x			
20 ■	Does your community have a local hazard disclosure policy requiring hazard disclosure by real estate agents, private sellers, and/or by municipal officials for properties located in (a) the FEMA-designated regulatory floodplain and/or (b) other flood hazard areas (e.g., storm surge, sea level rise, etc.)?	a	b	A x	B x		
21 ■	Does your community have a disaster response and recovery plan that includes short- and long-term actions and policies and identifies personnel responsible for those actions?	x					
22	Does your community participate in practice drills of emergency response plans?	x					
23 ■	(a) Does your community have a flood warning plan and (b) a flood warning system?	a	b	a x	B x		

24 ■	Does your community have an emergency communication system to use prior to, during, and after a storm event or natural disaster (e.g., reverse 911 call system for landlines, IPAWS for cell phones)?		x		
25 ■	Does your community have an emergency evacuation plan that identifies populations needing evacuation assistance and mechanisms for providing that assistance?	x			EMS has a list

Community Planning		Yes	No	N/A	Notes
	Does the plan account for seasonal population variability?	x			As much as possible it is difficult to determine seasonal populations
26	Does your community have mutual aid agreements with neighboring communities for hazards and disaster preparation, response, and recovery?		x		Mutual aid is available for the fire service
27	Does your community have a plan for acquiring and disseminating response and recovery equipment and materials (generators, food, water, etc.)?	x			
28	Does your community have a post-disaster waste management and debris removal plan that has been reviewed by MEDEP, MEMA, and FEMA?		x		
29	Does your community budget for local disaster response and recovery funds (not from State or federal agencies)?		x		
30	Are mechanisms in place for your community to solicit and receive external funds for disaster response and recovery?	x			
31	Does your community have an established line of credit to ensure capital flow post-disaster?		x		
32	Does your community track storm/hazard recovery and cleanup expenses?	x			
	Does the tracking method comply with FEMA and MEMA requirements for disaster recovery funding programs (e.g., 2D Statement of Damages Road Tracker form)?	x			
33	Does your community have a plan to address and expedite permitting and inspection processes associated with post-disaster repairs while ensuring that reconstruction and redevelopment are resilient and directed away from flood hazard areas?		x		

Social and Economic Vulnerability		Yes		No		N/A	Notes
1	Has your community identified and assessed the following traditionally vulnerable populations located in areas vulnerable to (a) existing and (b) potential future flood hazards and considered them in flood hazard risk, preparedness, and response activities?	a	b	a	b		
	• Elderly population			x	x		
	• Households below the poverty level			x	x		
	• Residents without vehicle access			x	x		
	• Disabled individuals			x	x		
	• Non-native English speakers			x	x		
	• Service industry/tourism-based workers			x	x		
	• Homeless population			x	x		
	• Working waterfront workers			x	x		
	• Other local vulnerable population			x	x		
2	Has your community determined total property value within areas subject to (a) existing and (b) potential future flood hazards?	a	b	A x	b x		
3	Has your community assessed the financial impacts and subsequent impacts to the tax base of (a) existing and (b) potential future flood hazards to the following?	a	b	a	b		
	• Infrastructure			x	x		
	• Facilities			x	x		
	• Public property			x	x		

	• Commercial private property			x	X		
	• Residential private property			X	X		
4	Has your community assessed the level of flood insurance coverage in flood hazard areas?	X					The State provides flood insurance coverage information
5	(a) Has your community assessed trends in the relative size and age of the permanent resident population and seasonal visiting population and (b) predicted future trends and impacts?	a	b	A	B		
				x	x		
6	Does your community conduct education and outreach to ensure community members and businesses are aware of hazard risks, warning procedures, and evacuations plans?			x			
	Are education and outreach materials prepared in the major languages spoken by residents and visitors?				x		
7	Is there strong participation among residents in social networks and citizen organizations (e.g., volunteer organizations, faith-based	x					

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Social and Economic Vulnerability		Yes		No		N/A	Notes
	organizations, and civic groups) in your community?						
8	Is your community served by an active Community Emergency Response Team (CERT)?			x			
9	Has your community analyzed commuting patterns to identify the extent to which the local economy is dependent on the workforce traveling into and out of your community and how (a) existing and (b) potential future flood hazards could impact that transport?	<u>A</u> <u>x</u>	<u>b</u>	<u>a</u>	<u>B</u> <u>x</u>		One-way out
10	Has your community identified strategies for protecting or relocating culturally or historically significant artifacts/structures located in (a) existing and/or (b) potential future flood hazard areas?	<u>a</u> <u>x</u>	<u>b</u>	<u>a</u>	<u>B</u> <u>x</u>		The community has identified important areas/structures but more needs to be done to mitigate damage
11	Is the economic base of your community diversified beyond tourism, maritime industries, and fisheries?			x			Additional economic analysis needs to be undertaken
12	Does your community encourage businesses located in flood hazard areas ⁸ to prepare continuity of operations plans?			x			

13	Does your community encourage businesses located in flood hazard areas ⁸ to purchase flood insurance?		x		
14	Does your community have business-supported groups (e.g., Chamber of Commerce) that assist local businesses with assessing vulnerability, flood hazard preparation, and hazard mitigation and adaptation?		x		This is something that needs to be explored
15	Does your community encourage local businesses to register as approved vendors for federal post-disaster procurement processes?		x		
16	Does your community have an economic development plan or strategy that addresses (<i>a</i>) existing and/or (<i>b</i>) potential future flood hazards?	<u><i>a</i></u>	<u><i>b</i></u>	<u><i>A</i></u> <i>x</i>	<u><i>B</i></u> <i>x</i>

⁸ Flood hazard areas include those designated as the 100-year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) and those mapped as subject to inundation from storm surge and sea level rise.

Natural Environment		Yes		No		N/A	Notes
1	(a) Are the following natural resource areas within your community identified and mapped and (b) has your community conserved or developed a plan to conserve or restore them?	a	b	a	b		
	• Dunes and beaches	x			x		
	• Wetlands	x			x		
	• Coastal and wetland buffers and adjacent uplands	x			x		Land trusts are involved in wetland preservation
	• Natural areas of significance	x			x		
	• Coastal Barrier Resources System (CBRS)			x	x		
2	Are potential conservation efforts, easements, and land acquisitions assessed for (a) existing and (b) potential future flood impacts and long-term ability to provide beneficial functions?	a	b	a	b		
				x	x		
3	Does your community prioritize repetitive loss properties for acquisition and conversion to open space?				x		
4	Does your community have local ordinances to protect the following from development or disturbance that are more protective than State regulations?						
	• Dunes and beaches				x		
	• Wetlands				x		
	• Coastal and wetland buffers				x		
	• Bluffs				x		
	• Flood hazard areas ⁹				x		

	• Erosion hazard areas			x		
	• Natural areas of significance			x		
	• Coastal Barrier Resources System (CBRS)			x		
5	Has potential future marsh migration been analyzed, considered, and addressed in your community's planning and land use decisions?			x		Additional study needed
6	Has your community assessed impacts (e.g., saltwater intrusion) of (a) existing and (b) potential future flood hazards and sea level rise to public and private drinking water supplies?	a	B	a	b	
			x		x	
	Is there a plan in place to protect supplies?		x		x	

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Natural Environment		Yes		No		N/A		Notes	
7	Does your community have a plan and process in place to ensure septic systems located in environmentally sensitive and flood hazard areas are routinely inspected and functioning properly?			x				Town relies upon State law and regulation	
8	Does your community prohibit, or allow with more stringent environmental restrictions, septic systems in flood hazard ¹⁰ and coastal areas or encourage adaptation practices to protect from storm and flood impacts?			x					
9	(a) Are the following sites located within flood hazard areas ¹⁰ in your community? (b) If so, are there plans and policies in place to mitigate flood hazard impacts and protect human and environmental health?	a	b	a	b				
	• Brownfields		x		x				
	• Superfund sites		x		x				

⁹ Flood hazard areas include those designated as the 100-year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) and those mapped as subject to inundation from storm surge and sea level rise.

¹⁰ Flood hazard areas include those designated as the 100-year floodplain depicted on your community's Flood Insurance Rate Map (FIRM) and those mapped as subject to inundation from storm surge and sea level rise.

	• Landfills		x		x		
	• Tailings ponds and mining waste sites		x		x		
10	Are environmental protection measures, strategies, and priorities integrated in your community's comprehensive and hazard mitigation plans?			x			This needs to be explored
11 ■	Do your community's post-storm recovery plans ensure protection of environmentally sensitive or significant areas (<i>e.g.</i> , dune systems)?			x			

