

## **Hazard Mitigation**

### Flooding

Floodplains serve to accommodate high levels and large volumes of water and to dissipate the force of flow. A floodplain absorbs and stores a large amount of water, later becoming a source of aquifer recharge. Floodplains also serve as wildlife habitats, open space, and outdoor recreation without interfering with their emergency overflow capacity. As with any community flooding can cause serious destruction of property and activities that increase paved or impervious surfaces and/or that change the watercourse on floodplains increase the quantity and rate of runoff that can intensify flooding impacts downstream.

The Federal Emergency Management Agency (FEMA) administers the Federal Flood Insurance Program and has identified the 100-year floodplains located in Easton. A 100-year flood is a flood that has 1 chance in 100 of being equaled or exceeded in any 1-year period. Local flood plain areas fall into two major categories: areas prone to flooding and velocity zones or areas susceptible to damage from wind-driven rain.

The most recent floodplain map was developed in 1985 and identifies unnumbered A zones. According to FEMA, there are 3,336 floodplain acres located in Easton. Floodplains are scattered throughout town and are generally associated with smaller streams and rivers. The largest blocks of floodplains are associated with Prestile Stream and Eliot Brook located in the center of the community. Other smaller zones are located around Hersom Pond, Fling Brook, and Howard Brook.

As stated in the Land Use section, Easton has an adopted a Floodplain Management Ordinance. Town officials should consider contacting the Maine Department of Agriculture, Conservation, and Forestry's (MDACF) Floodplain Management Program for technical assistance relating to floodplain management ordinance and mapping updates. MDACF provides assistance to municipalities which includes the development of ordinances and permit applications. These ordinances are designed to ensure that floodplain management measures are appropriately applied in flood hazard areas and in many cases, ordinances follow state minimum guidelines.

### Other Hazards

Hazard mitigation planning is developed and coordinated at the County level by the Aroostook Emergency Management Agency (AKEMA). The Aroostook County Hazard Mitigation Plan update received final FEMA approval in 2011. Plans are currently underway to begin the revision of the plan with a completion date of 2016. All municipalities are asked to participate in this planning process and to provide a list of potential projects should emergency funding become available. Easton has participated and provided the required information.

While flooding always seems to be the risk that requires the greatest attention, Easton faces several other risks that must be understood and addressed. AKEMA lists four priorities when discussing hazard mitigation, flooding, severe winter storms, severe summer storms, and wildfires. Aroostook County is known for its long and, often thought of, severe winters. Winter

storms are ranked as the second highest hazard in Maine behind flooding. These include heavy snow, ice storms, blizzards, freezing rain and winter storms. Nor'easters, the most severe winter storm, can produce precipitation amounts exceeding several inches of water equivalent to 20-30 inches of snow or more, and produce wind speeds equal to or greater than those of hurricanes. It should be noted that over 50% of winter storm related deaths are attributed to exposure to the cold. The most vulnerable are those over the age of 60 and male. Approximately 20% of the cold related deaths occur in the home.

Because winter storms have the potential of impacting large areas of the community, AKEMA has estimated that, in the worst case scenario, a severe winter storm could impact 53 miles of electrical transmission lines, 43 miles of paved roads, and 10 miles of gravel roads and cause well over \$1 million of damage to the public infrastructure in Easton. Easton has planted windbreaks along identified problem locations and identified the following for additional windbreaks:

Severe summer storms typically have the greatest impact on road infrastructure although high winds associated with thunderstorms or tornados can down trees causing disruptions to electrical and telephone service. Summer storms tend to be more localized (exception could be a hurricane) and AKEMA has estimated that severe summer storms could potentially impact \$40-50,000 of public infrastructure at any one time. This number could be significantly higher depending on the extent and duration of the storm. Town officials have identified two locations where summer storms have impacted road infrastructure. These include the Graham Road where the town has replaced two culverts with 8'x40' culverts and riprap (\$68,000) and the Ladner Road culvert replacement with 8'x45' culverts and riprap (\$78,000). Additionally town officials should work with Emera on tree trimming in areas that could potentially impact transmission lines.

Easton contains a mixture of forests and farms and development is occurring in these areas. The town is also vulnerable to forest fire, especially during periods of drought, given the extent of its urban/wild land interface and increased residential construction in forested areas. Burning permits are required for outdoor burning of brush piles or wood debris anytime throughout the year. Depending on the current fire danger, other restrictions may be in place.

Town Officials are also aware that hazardous industrial and commercial chemicals, compressed natural gas (CNG) and fuel oil are transported to and through Easton via heavy truck and rail. According to the Maine Department of Environmental Protection (MDEP), there have been a number of petroleum and hazardous substance (ammonia, etc) spills in Easton. Town officials need to be watchful of hazardous material transportation through the community and maintain a trained emergency response preparedness program should spills occur. McCains has contingency plans in place and keep the Town's Fire Department informed of any changes.

The Maine Environmental and Geographic Analysis Database (EGAD) (formerly known as the Environmental and Groundwater Analysis Database) was originally designed to store site and water quality information and currently includes spatially located data for 39 different types of potential and actual sources of contamination to groundwater in Maine. Access to comprehensive up-to-date analytical data allows DEP to assess trends in regional ground water quality and

quantity. It also improves automated analysis and map-making capability including rapid access to information for emergency response to hazardous materials spills. Detailed well and analytical information in the database is used by staff to design remedial action at hazardous spill sites. It is also used by staff to evaluate potential for cumulative impacts of real estate development on ground water quality.

Recent efforts to expand and improve EGAD have involved the inclusion of data from the Bureau of Land & Water Quality including the addition of 10 Biological and Surface Water Sampling site types. This is in addition to the data that continues to be included from the Bureau of Remediation & Waste Management. To encapsulate the new addition of data from Land & Water Quality and to acknowledge the spatial (GIS) component of the data, EGAD is now known as the Environmental and *Geographic* Analysis Database, as data in EGAD now includes a broad range of environmental data including physical, chemical, biological and spatial data. Information can be found at the following website: <http://www.maine.gov/dep/maps-data/egad/index.html>

### Dams

There are two (2) dams located in Easton with a third located on the Fort Fairfield/Easton townline. The municipally owned dam is located on Easton Pond on the Center Road behind the Town Office. Josephine Dam is owned by McCain Foods and located at Josephine Lake on the Station Road. The third dam, located in Fort Fairfield at Christina Reservoir is also owned by McCain Foods. The Maine Emergency Management Agency (MEMA) inspects dams throughout the state which are classified in three categories: high hazard, significant hazard, and low hazard. High hazard potential means that mis-operation or failure could “probably cause loss of life.” The other dams are “significant hazard dams,” meaning a failure could cause property or environmental damage.

Of the nine (9) identified high hazard dams located in Aroostook County, two are located either in or very close to Easton, Christina (Dam #135) and Josephine (#134) dams. According to MEMA, both Christina and Josephine Dams have been inspected and are considered to be in excellent condition. Also, according to MEMA, the present owners should review the status of each of the dams and request that the classification be lessened for each as residential properties are not located near either structure. That is not to say that a failure could lead to loss of life should vehicles be driving on roads located downstream at the time of the failure. Dam owners and the Easton Fire Department have developed emergency protocols in the event of a dam failure.

As of the date of the writing of this section, the dam owned by the Town has not been inspected by MEMA. Town officials are, however, working to maintain the dam and to keep the spillway free from obstructions.

**HAZARD MITIGATION  
Policies & Strategies**

**State Goal**

Discourage development in natural hazard areas. Municipalities shall prevent inappropriate development in these areas including floodplains and high erosion areas.

**Local Goal**

Reduce losses to public and private property caused by inappropriate development through effective planning, preparedness, response and regulation.

**POLICY**

Continue to participate in the hazard mitigation planning process at the County level and implement local strategies to enhance preparedness, response and reduce risks to persons and property.

<b>Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Designate a local person as Hazard Mitigation Coordinator (Officer) with on-going responsibility and create an annual stipend as compensation and to reflect the level of importance of their responsibilities: <ol style="list-style-type: none"> <li>1. Annual update of local sections of County Hazard Mitigation Plan</li> <li>2. Keep plan active by implementing specific tasks in the plan.</li> <li>3. Maintain on-going communication with Emergency Management Agency (EMA) and with local Police, Fire, Ambulance, Border Patrol and other government services.</li> <li>4. Coordinate the annual flood preparedness meetings, training and public education with AKEMA and other agencies.</li> <li>5. Address tasks related to long term recovery planning formula.</li> </ol>	Town Officials	On-going
Seek grant funding through Maine Emergency Management Agency (MEMA), Hazard Mitigation Program, Maine Office of Community Development- CDBG Program, Maine Department of Transportation – Rural Roads Initiative and other sources to undertake the projects identified in the Hazard Mitigation Plan.	Fire Dept. Highway Dept., Planning Board and Town Officials	On-going
Maintain and build reserve funds as match for Pre-disaster Mitigation Grant funds for large capital projects and apply for these funds.	Town Officials	2016
Continue to fund upgrades to town roads targeted in Hazard Mitigation Plan. Keep scope of work manageable	Town Officials and Highway Dept.	2016 and on-going
Continue to invest in drainage improvements on all roads to mitigate damage caused by runoff and erosion.	Town Officials and Highway Dept.	2016 and on-going
Invest in concrete barriers that can be used to deflect flood waters and close-off and control access points during emergencies.	Highway Dept.	2017
Coordinate traffic control with the US Border Patrol, Customs and the Maine State Police to restrict outside traffic during disaster events.	Town Officials	On-going

<b>Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Annually inspect the Easton Pond Dam and remove debris that may be blocking the spillway.	Town Officials	On-going
Work with Emera to complete tree trimming in all areas to help protect power and telephone lines.	Town Officials	On-going

**POLICY**

Ensure that new development and improvement to existing properties does not create or contribute to the risk of property damage, personal injury or loss of life.

<b>Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Continue to enforce, without exception, the construction standards outlined in the Floodplain Management section and local road standards for subdivision roads and roads proposed for public acceptance.	Code Enforcement	On-going
Revise the local zoning ordinances to keep floodplain and shoreland zoning provisions current with State and Federal standards.	Planning Board	2016-17
Use the building permit review process outlined in the Land Use Plan to educate all floodplain property owners on methods of flood proofing their buildings.	Planning Board and Code Enforcement	On-going
Amend the Subdivision Ordinances to include storm water runoff standards.	Planning Board.	2016
Continue to seek funds for property acquisition and residential/business relocation in floodplain areas.	Town Officials.	2016 and on-going
Communicate with MDEP on storm water management issues and cooperate on enforcement.	Town Officials, Planning Board, and Code Enforcement.	On-going

**Natural Resources That Supports Hazard Mitigation Policies & Strategies**

Easton recognizes that it has many natural resources that help reduce the intensity of flooding and protect water quality. The protection of these natural features, specifically wetlands, floodplains and riparian areas is the least expensive way to mitigate the effects of runoff, erosion and flooding. Standards are already in place in local ordinances that address protection of the resources.

**POLICY**

Ensure the protection of wetlands, floodplains and riparian areas from activities that reduce their capacity to control flooding and erosion.

<b>Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Strictly enforce floodplain management and shoreland zoning standards that pertain to filling, earth moving and clearing activities.	Code Enforcement	On-going

**POLICY**

Protect the capacity of roadside drainage and storm drainage systems to handle runoff.

<b>Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Continue to work with the Highway Department to improve drainage along roads. Follow the 10 year plan for road improvements	Highway Dept. and Town Officials	On-going
Annually identify erosion and runoff problems associated with agriculture and request that landowners contact the USDA-Natural Resource Conservation Service and the Central Aroostook Soil and Water Conservation District for assistance.	Planning Board, Code Enforcement, and Town Officials	On-going
Continue to enforce the standards found in the Subdivision Ordinance that pertain to sedimentation and erosion control.	Planning Board and Code Enforcement	On-going

**An All-Hazards Approach to Preparedness, Response, Recovery and Education Policies And Strategies**

Town officials acknowledge that there are other serious natural and man-made hazards that require planning, preparation and public education to ensure the safety of its citizens. Most of these are identified in the County Hazard Mitigation Plan and include severe winter storms with high wind and ice and severe summer storms with high wind and flash flooding. Associated long duration power outages are of particular concern.

**POLICY**

Build community capacity to withstand long duration power outages to protect public services, shelter areas, and private residences.

<b>Strategy</b>	<b>Responsibility</b>	<b>Timeframe</b>
Develop a priority list of facilities that require back-up power and seek Federal and State grant funding for the purchase of generators.	Planning Board, Fire Dept., and Town Officials	2017
Design and implement a community survey that determines the capacity of local households to cope with power outages and report results to County and local emergency response.	Planning Board	2019
Publicly post emergency preparedness information that directs citizens to County, State and Federal emergency management websites and other educational resources.	Town Officials	On-going

Strategy	Responsibility	Timeframe
Encourage local fuel companies to have auxiliary power that enables them to supply gasoline, diesel and propane during outages.	Town Officials	2016
Develop a municipal fuel depot with generator set-up to enhance preparedness.	Highway and Fire Dept.	2016 and on-going
Create/initiate a tornado notification protocol with the National Weather Service, Caribou and local emergency responders for advance warning	Town Officials, and Planning Board	2018On-going