

BLACKSTONE RIVER VALLEY

AT RISK

WHAT DO WE HAVE TO LOSE?

A History of Flooding

Woonsocket Local Flood Protection Project and Woonsocket Drainage Improvements Project

- The Blackstone River Valley floodplain extends from Worcester, MA through Woonsocket, RI and on to Pawtucket.
- Woonsocket suffered flood damage from heavy rains in 1954 and 1955. Residential, commercial, and industrial properties were ruined. The “Projects” were born.
- The “Projects” are located in and owned by the City of Woonsocket and maintained in conjunction with the Army Corps of Engineers.
- The “Projects” have protected citizens and properties from flooding of the Blackstone, Peters, and Mill Rivers, and saved an estimated \$42.3 million in damage.

Hurricane Carol 1954

- Deaths: 19
- Property damage: \$200 million
- Numerous buildings destroyed
- Winds: 90 mph, gusts to 110 mph
- More damage to structures than during the 1938 hurricane despite increased building regulations

Tropical Storm Diane 1955

- Deaths: 2
- Damage: \$175 million in uninsured property
- Harris Pond Dam failed and flood waters eroded part of Precious Blood Cemetery and devastated the Social Street Business District

Tropical Depression of 1979

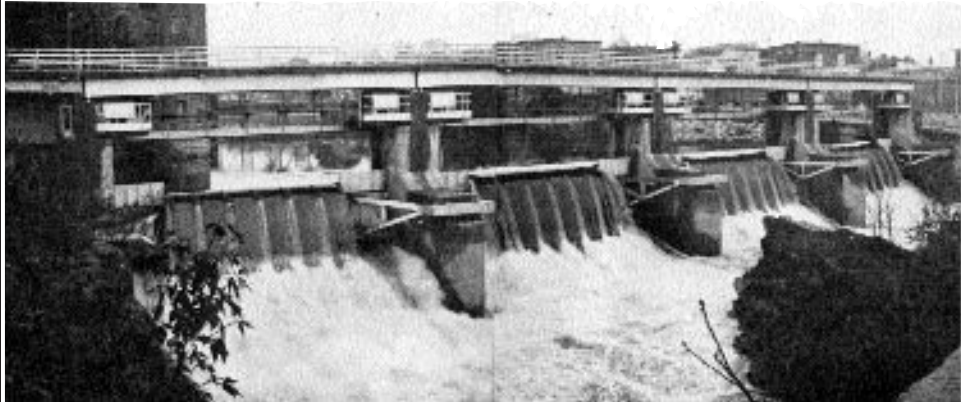
- Property damage: \$5.8 million

Hurricane Bob 1991

- Property damage: \$115 million
- Sustained winds reaching 105 mph

Floods of April 1994

- Property damage: \$1 million



Woonsocket Falls Dam is the most important dam owned by the city of Woonsocket.

Weather Impacts on River Flooding

Excessive rainfall, the melting of above-normal amounts of winter snow and ice, or wind-driven surge from hurricanes can cause river flooding and put ponds and streams at risk of overflowing their banks. The Blackstone River Valley floodplain, which encompasses nine Rhode Island communities and several more in southern Massachusetts, has flooded many times since the early 1800's.

Natural Hazards In Rhode Island

- All 39 communities in the state have been identified as “flood-prone” by the Federal Emergency Management Agency (FEMA).
- The Blackstone River Valley is located in a high-activity storm track between the Great Lakes and the Atlantic Ocean. It has seen intense 100-year storms come from both east and west. A 100-year storm is one that, in a given year, has a 1 percent chance of occurring. The Hurricane of 1938 was such a storm. Floods from these storms average \$200,000 in damages.
- Rhode Island’s tornado risk is rated as an average of 1-5 per year.
- High winds from hurricanes could cause over \$20 million in damages statewide to old multi-family buildings and modern single-family houses.

Dams at Risk

- Providence County has 14 dams, which are considered high-hazard.
- Seven dams along the Blackstone River in Rhode Island present a significant hazard. These dams need not be in poor condition to present a risk to people’s lives and property downstream.

Insured Value of Property

- Providence County has more than 783 flood insurance policies worth \$83.5 million. There have been more than 400 claims since the late 1970s. Many properties have been lost or damaged repeatedly.



WHAT DOES WOONSOCKET HAVE TO LOSE?

Woonsocket Statistics

Vulnerability in the Floodplain

- There are a total of 16 flood insurance policies worth over \$8.2 million in Woonsocket.
- The Woonsocket Regional Wastewater Facility is the single most vulnerable public property in the floodplain of the Blackstone River. Other critical structures are sufficiently protected by the Project's dikes, flood walls, flood pumping stations and the Woonsocket Falls Dam.
- There are no further facilities, commercial or industrial, in the Blackstone River's floodplain, which are protected against a 100-year flood. However, maintenance of the other existing Flood Control Projects is essential in keeping these areas protected.
- Other tributaries and streams (i.e. Peter's River, Mill River, Cherry Brook, Theresa Street Brook, Iron Rock Brook and Bernon Park Brook) are vulnerable to local flooding and potential property damage. A local drainage program is underway to determine the active and passive controls needed to retain storm water runoff and mitigate these problems.
- Woonsocket owns and maintains reservoirs in Smithfield, North Smithfield and in Blackstone, MA. Woonsocket is committed to protecting these sources of public drinking water. Woonsocket's water division has submitted an Emergency Response Plan, which outlines numerous protection measures to be implemented in case of a natural disaster, to the Rhode Island Department of Health.

Dams Along The Blackstone River

The Woonsocket Falls Dam is the most prominent dam owned and maintained by Woonsocket. Water flow is monitored and controlled to minimize or optimize water levels upstream and surges downstream. Harris Pond Dam is stationary and holds Woonsocket's secondary public drinking water supply. Other minor dams located on the Peter's River and Mill River are at risk as well.

MULTI HAZARD RISKS

The Blackstone River in Woonsocket contains both "A" and "B" flood zones. "A" zones are areas that would be inundated by a flood likely to occur once every 100 years or less. Areas in "B" zones would be affected by a 100- to 500-year storm.

Local flooding from the overflow of the Blackstone's tributaries, other brooks or streams, inadequate local drainage and lack of local flood control facilities has been a recurring problem. In addition, people have suffered property damage from continuing rainstorms of greater than normal intensity and from hurricanes. The Army Corps of Engineers built two Woonsocket Flood Protection Projects, which have saved Woonsocket millions in damage (see "A History of Flooding"). Many residential areas, however, have few or no flood controls.

Funding Opportunities

- **Flood Mitigation Assistance Program.** These funds are available to communities with a FEMA-approved local flood mitigation plan. A 25 percent match is required.
- **Hurricanes and Earthquakes.** States receive FEMA funds annually, based on risk formulas. No match is required. Cities and towns with mitigation policies already in place receive funding priority.
- **Post-Disaster FEMA Mitigation Funds.** The Hazard Mitigation Grant Program (HMGP) is funded following a presidentially declared disaster. It represents an additional 15 percent of all the infrastructure and individual assistance funds that are provided to the Rhode Island Emergency Management Agency (RIEMA) to repair damages and recover from losses. The funds are administered by the state in partnership with FEMA.
- **Army Corps of Engineers Funds.** These funds are available, on application, to communities for mitigation, repair, maintenance, restoration and/or upgrade of facilities, buildings, wetlands, etc.

Woonsocket participates in the National Flood Insurance Program (NFIP) Community Rating System (CRS), available when Woonsocket exceeds the minimum standards for flood protection set out by the NFIP. CRS is an optional way for flood insurance policy holders in the community to reduce their premiums by 5 to 45 percent.

For further information on risks from natural hazards and on what you can do to protect your home or business, contact:

Rhode Island Sea Grant/ URI Coastal Resources Center: (401) 874-6224
Rhode Island Emergency Management Agency: (401) 946-9996
City of Woonsocket: (401) 762-6400



COASTAL RESOURCES CENTER
University of Rhode Island

