STILL RIVER WATERSHED

The story of the Still River is a story of comeback.

From a history of damming and industrialization, development and improper waste management, the Still has made a remarkable recovery since the advent of the Clean Water Act in 1972 and local regulations that have curbed direct dumping and impact on the Still and its tributaries.

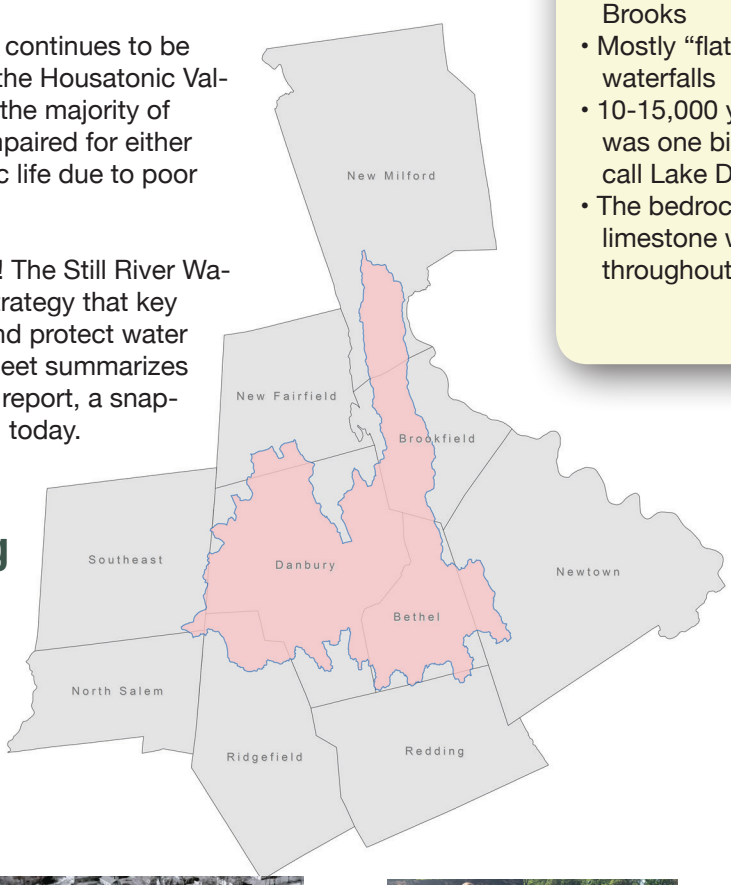
Despite advances, the watershed continues to be one of the three most polluted in the Housatonic Valley. 36% of all streams, including the majority of the mainstem, are classified as impaired for either for recreational use and/or aquatic life due to poor water quality.

Together we can make this better! The Still River Watershed Plan is an agreed upon strategy that key stakeholders will use to restore and protect water quality in your region. This factsheet summarizes the Still River Existing Conditions report, a snapshot of the state of the watershed today.

For the full report visit

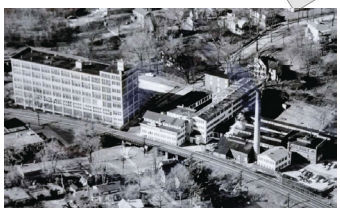
stillriverwatershed.org

and leave your comments and feedback!



Know Your Watershed!

- 75.4 square miles crossing 10 towns
- 25.4 miles of "mainstem" river
- Major tributaries: East Swamp, Limekiln, Miry and Padanaram Brooks
- Mostly "flat" with two significant waterfalls
- 10-15,000 years ago, the watershed was one big glacial lake geologists call Lake Danbury.
- The bedrock beneath the river is limestone which leads to unique flora throughout the valley.



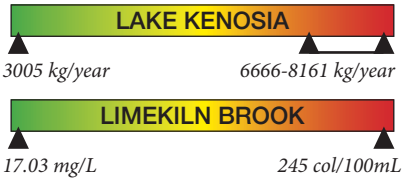
Pollutants and TMDLs

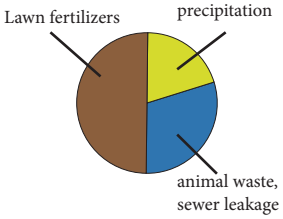
A **Total Maximum Daily Load (TMDL)** is a management tool used to restore waters by establishing a "pollution diet" - the maximum contamination a water body can recieve without adverse impacts to fish, wildlife, recreation or other public uses. Some TMDLs, such as bacteria, are expressed as a percent reduction necessary to meet water quality standards

E. coli

E. coli presence indicates that water has been contaminated with fecal bacteria. The Still River is managed by a TMDL for E. coli, and must reduce levels an average 70% in all streams.

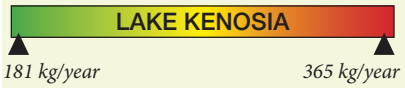
Nitrogen

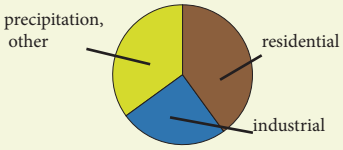




Too much nitrogen causes algae blooms, starving waters of oxygen and killing fish. Most nitrogen comes from properties that carry excess fertilizers, waste and debris. Cutting back on fertilizers, picking up pet waste and planting natural buffers will help.

Phosphorus

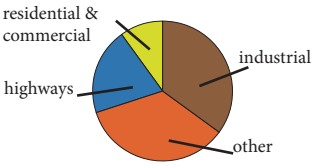




Similar to nitrogen, phosphorous runoff originates with fertilizer overuse and results in excessive richness of nutrients in a body of water.

Metals

Silver, cadmium, chromium, copper, nickel, lead, and zinc



Metals found in the Still come from exposed pipes and material in the industrial areas, and from roadway runoff from the two major highways.

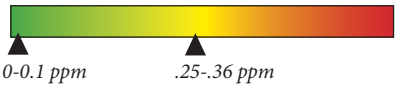
industrial

Mercury

#1 Historical industry (hatting)
#2 Atmospheric deposits
#3 Other (ex. batteries, lightbulbs, etc.)

In the Still, Mercury remains as a legacy pollutant from the hatting industry with trace amounts from other industrial air pollution.

PCBs



PCBs are industrial chemicals that cause health problems, including cancer, in humans and wildlife. While a widespread problem in the Housatonic, the Still has a fairly low concentration.

Salts

De-icing salts have increased dramatically in recent years, resulting in better road safety but polluting waterways. Many towns and states are modifying salting practices to reduce use while still maintaining safety.

Drinking Water

Many of the pollutants listed above, when found in excess, make their way to our groundwater and into our wells and reservoirs. The Still River watershed consists of 179 drinking water sources that result in 128 public drinking water systems. Of these 39 systems are highly susceptible to potential contaminant sources, 36 are moderately susceptible, and 29 have low susceptibility.

Nonpoint Source Pollution – Stormwater Runoff

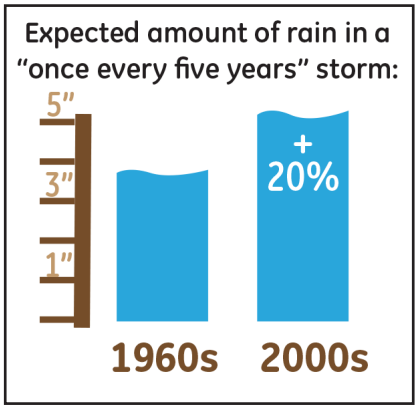
One of the most common problems in the Still River Watershed is nonpoint source pollution – any pollution that can't be traced back to a single source. The majority here is stormwater runoff that picks up oils, fertilizers, lawn clippings, salts, pesticides, metals and debris. Luckily this can be addressed with public support. Reducing the amount of chemicals used in landscaping, reducing debris dumped in the river, picking up litter, advocating for better salting practices, and planting buffers around streams and lakes are just a few of the ways you can help reduce non-point source pollution and contribute to healthy water.

Impervious Cover

Impervious cover (IC) refers to any nonporous surface that doesn't allow water to pass through. More impervious covermeans poorer water quality as pollution can often concentrate over these surfaces before depositing into water or ground. Noticeable water quality problems come when impervious cover exceeds 10%. With 35% of developed land and 14% impervious cover, the Still watershed is beyond that tipping point. Solutions to IC can involve green infrastructure projects such as bioswales, green roofs, permeable paving for driveways and parking lots, and rain gardens.

Flooding

In an undisturbed watershed, floodwaters rise into the floodplain and then recede naturally. Industrialization and development in the Still is concentrated around the river. Dams were built for waterpower (especially for fur-processing operations), streambeds were filled in, and the river re-channeled in places to provide land for building lots, some tributary streams were buried, and some buildings were even constructed directly over the River in the valuable real estate of central Danbury. These changes to the natural stream channels contributed to frequent flooding, especially as much of the development was concentrated in floodplains. The 1955 floods made the public aware for the first time of the connection between development of the floodplains above the city with the intensity of flooding downstream and flood control projects were installed to control future flood events. This included the concrete channel that transports the Still River mainstem through downtown Danbury. Despite these major flood control projects, flooding remains an issue in the watershed.



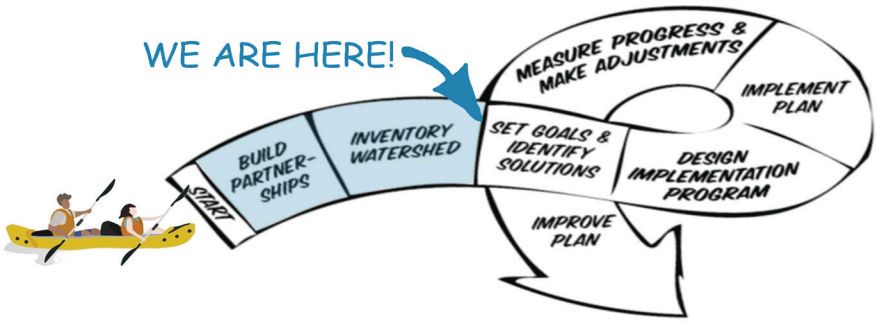
Climate Change

Climate change is affecting the Northeast U.S.: sea levels are rising, snowpack is decreasing, and water temperatures are increasing. The climate will get warmer and wetter, with more frequent extreme storms. Annual average temperature in the Northeast has increased by 1.43°F for the period 1986–2016 relative to 1901–1960 and in general winters are becoming warmer with less snow and spring is coming earlier. Additionally, our region is getting wetter. Seasonally, the fall exhibits the largest precipitation increase, exceeding 15% over much of the region. Much of the increase is seen in heavy precipitation events. Between 1958 and 2012, the Northeast saw more than a 70% increase in the amount of rainfall measured during heavy precipitation events. There are steps that can be taken to anticipate and plan for the potential changes in future climate. It is necessary to understand these changes and integrate climate change data into planning processes and decision-making now and in the future.

Invasives

The Still River is unusual among river systems in Connecticut in that it flows through limestone (calcareous) bedrock for virtually its entire length, with a broad, low gradient floodplain. This calcareous creates notable biodiversity with endangered, threatened and special concern species and natural communities concentrated around the river. Invasive species such as knotweed, mugwort, and bittersweet threaten the natural biodiversity of the Still by outcompeting native plants and changing the ecosystem that has evolved over time.

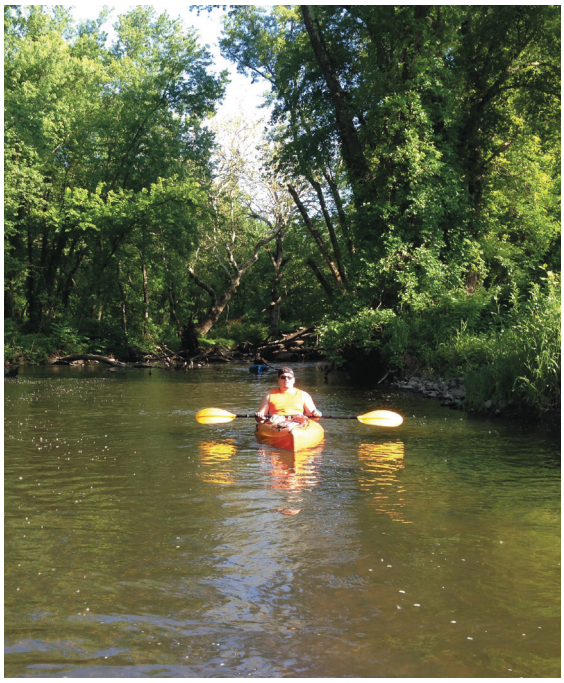
Watershed Planning



A watershed plan is a guide for leading communities toward improved water quality and recreation goals. An **EPA-approved watershed planning and implementation process** involves six major steps (see graphic). In 2014 HVA along with other nonprofits, advocacy groups, and municipalities formed the Still River Partners group (Step 1). Since then this group has met quarterly to bring together information and resources that helped form the Existing Conditions Report (Step 2). After public comment this report will form the basis for the partners to develop vision and goals, leading to the design of an implementation plan. This plan will then be set into motion, adjustments will be made based on measures of success to improve the process. Implementation has begun! Based on field work and partnerships HVA designed Still River Watershed Connections, a program that connects youth to restoration projects in the watershed.

You can help! Participate in the watershed planning process by learning more about the ECR and leaving your comments at stillriverwatershed.org. Know of any restoration projects? Let us know in the comments section on our website.

The Recreation Vision



The Still River has long been used for recreation by the people along its banks. But from the 1870's to the 1970's, industrial dumping and the use of the river as a sewer severely degraded water quality, while flood control projects completely cut off access to the river along some reaches. As the river makes a comeback, people have returned to hike, fish, and boat in public spaces such as Lake Kenosia, Harrybrooke Park, and Lover's Leap. Municipalities along the Still have prioritized developing open space and access to the river, particularly encouraging the construction of various sections of the Still River Greenway and Water Trails. The Greenway promises to be a 10 foot-wide, fully accessible trail that runs alongside the river from Danbury Commerce Park to Lover's Leap. So far, 3.2 miles of trail have been constructed (1.2 miles in Danbury and 2 miles in Brookfield). The planning process for the Greenway led to the inclusion of a water trail where the public can paddle the Still River from Danbury to the mouth at Lover's Leap. To date, two boat launches have been installed with another in the works to portage around the falls at Harrybrook Park. **Recreation and water quality are mutually reinforcing, as one increases so does the other. The Still River Watershed Plan aspires to support both goals simultaneously.**

Field Assessments

As part of the watershed characterization stage, HVA walked 30 stream miles in the watershed assessing stream corridors for impacts such as lack of vegetative buffers, severe erosion, channelization, trash buildup and more. With this information HVA will identify restoration projects for the implementation stage of the watershed plan, with the ultimate goal of improving water quality watershed wide.

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