

## 2 Study Area Description

### 2.1 North Branch Park River

The North Branch Park River is formed by four major tributaries - Beamans Brook, Wash Brook, Filley Brook, and Tumbledown Brook (*Figure 2-1*). These tributaries have a total combined length of approximately 13.3 miles, with an additional 28.7 miles of unnamed tributaries. The North Branch Park River begins at the confluence of Beamans Brook and Tumbledown Brook in a wooded area between Routes 218 and 189 in the southern portion of Bloomfield. The North Branch Park River flows in a southerly direction for approximately 5.9 miles through the northern sections of the City of Hartford before entering an underground conduit near Farmington Avenue. The river then flows approximately 0.5 miles in the underground conduit before joining the South Branch Park River and ultimately flowing to the Connecticut River via the Park River conduit. The North Branch Park River and its tributaries are further described in Section 4.3 *Hydrology*.



The North Branch Park River conduit entrance near Farmington Avenue.

### 2.2 Watershed

The North Branch Park River watershed is an approximately 28.6-square mile (18,323 acre) sub-regional basin within the Park River watershed and the Connecticut River basin. The watershed is located within six communities, including Avon, Bloomfield, Hartford, Simsbury, West Hartford, and Windsor. However, Bloomfield, Hartford, and West Hartford comprise greater than 97% of the watershed land area, and approximately 68% of the watershed is within the Town of Bloomfield. *Table 2-1* summarizes the distribution of land area within the watershed by municipality.

**Table 2-1. Distribution of Municipalities in the North Branch Park River Watershed**

Municipality	Total Acreage of Municipality	Acreage in Watershed	% of Town in Watershed	% of Watershed
Avon	14,989	203	1%	1.1%
Bloomfield	16,872	12,540	74%	68.4%
Hartford	11,553	2,096	18%	11.4%
Simsbury	21,970	192	1%	1.0%
West Hartford	14,336	3,183	22%	17.4%
Windsor	19,868	108	1%	0.6%
<b>Total</b>	<b>99,587</b>	<b>18,323</b>		<b>100%</b>

Figure 2-1

The North Branch Park River watershed is characterized by a distinct mix of developed and undeveloped land uses. The far western portion of the watershed is sparsely developed, with large undeveloped tracts of land in the West Hartford Reservoir subwatershed and Talcott Mountain State Forest area. The northern-most portion of the watershed is moderately developed, characterized by areas of low-density residential development, agricultural areas, golf courses, and flood control reservoirs. The northeast portion of the watershed contains large areas of former agricultural land that has been converted to commercial and industrial/office park land use along Route 187. The central and southern portions of the watershed are more densely developed with residential, institutional, and industrial land uses. Section 7 *Land Use and Land Cover* further describes land uses within the North Branch Park River watershed.

Transportation corridors within the watershed include several heavily-travelled state routes as well as a dense network of local roads, particularly in the center of Bloomfield and in the north end of Hartford. A short segment of Interstate 84 and the West Boulevard Connector Interchange, which is located at the southern limit of the watershed near the confluence of the North and South Branches of the Park River, is the only portion of an interstate highway located within the watershed.

A basic profile of the watershed is provided in *Table 2-2*. Later sections of this document provide more detailed information on these watershed characteristics.

**Table 2-2. Profile of the North Branch Park River Watershed**

<b>Area</b>	28.6 square mile (18,323 acre)
<b>Stream Length</b>	Approximately 48 miles
<b>Subwatersheds</b>	14
<b>Municipal Jurisdictions</b>	Bloomfield, Hartford, West Hartford, Avon, Simsbury and Windsor
<b>Water Quality</b>	2008 DEP Impaired Waters List for physical substrate habitat alterations due to channelization and <i>Escherichia coli</i> due to combined sewer overflows, and unspecified urban stormwater
<b>Current Impervious Cover</b>	15%
<b>Subwatersheds Most Sensitive to Future Development (Section 10)</b>	Wash Brook North Beamans Brook East Wintonbury Reservoir Blue Hills Reservoir Filley Brook
<b>Subwatersheds with the Highest Restoration Potential (Section 10)</b>	Beamans Brook West Tumbledown Brook Filley Brook North Branch Park River Wash Brook South
<b>Major Transportation Routes</b>	Interstate 84 State Route 44 (Albany Avenue) State Route 189 State Route 178 State Route 218 State Route 173 State Route 187 (Blue Hills Avenue)
<b>Significant Natural and Historic Features</b>	Mark Twain House, Harriet Beecher Stowe House, Connecticut Governor's Residence, Heublien Tower, Penwood State Park (portion), Talcott Mountain State Park, Elizabeth Park, Auer Farm

**Table 2-2. Profile of the North Branch Park River Watershed**

<b>Significant Institutions and Land Use Features</b>	University of Hartford, UConn Law School, St. Francis Hospital, Watkinson School, University High School of Science & Engineering, Weaver High School, Hartford Public High School, Hartford Classical Magnet School, Wintonbury Hills Golf Course, Tumble Brook Country Club, Gillette Ridge Golf Course, Hartford Golf Club, Wampanoag Country Club, COPACO Shopping Center, Bloomfield Shopping Center, The Center of Bloomfield Shopping Center, Tunxis Plaza Shopping Center, Kaman Corporation Complex, Blue Hills Industrial Park, Griffin Center, CIGNA Campus, Wintonbury Reservoir, Blue Hills Reservoir, Tunxis Reservoir, Cold Spring, West Hartford Reservoir
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## 2.3 Subwatersheds

For the purpose of this report, the North Branch Park River watershed is divided into 14 subwatersheds, from which surface runoff potentially enters the river or its tributaries. The subwatershed delineations are based on basin delineations by the CTDEP and the U.S. Geological Survey, with modifications based on updated land use mapping, topographic mapping, flood control structures, and field observations. Subwatersheds were also delineated to facilitate assessment and development of watershed management plan recommendations.

Five of the subwatersheds are delineated based on flood control structures and are named by the impounded reservoir, including the West Hartford Reservoir, Cold Spring Reservoir, Bloomfield (Tunxis) Reservoir, Wintonbury Reservoir, and Blue Hills Reservoir subwatersheds. The remaining nine subwatersheds are catchments associated with the major tributaries to the North Branch, including Wash Brook North, West, and South; Beamans Brook East and West; Tumbledown Brook and Tumbledown Brook South; Filley Brook; and the remaining area that discharges directly to the main stem of the North Branch Park River. General characteristics of these subwatersheds are presented in *Table 2-3*, and their locations and boundaries are shown in *Figure 2-2*.

**Table 2-3. Subwatersheds**

<b>Subwatershed</b>	<b>Acronym</b>	<b>Area (acres)</b>	<b>Area (square miles)</b>
Beamans Brook East	BBE	163	0.25
Beamans Brook West	BBW	1,185	1.85
Blue Hills Reservoir	BHR	1,035	1.62
Cold Spring Reservoir	CSR	1,155	1.80
Filley Brook	FYB	404	0.63
North Branch Park River	NBP	4,033	6.30
Tumbledown Brook	TDB	1,561	2.44
Tumbledown Brook South	TBS	1,622	2.53
Tunxis Reservoir	TUX	874	1.37
Wash Brook North	WBN	762	1.19
Wash Brook South	WBS	1,559	2.44
Wash Brook West	WBW	1,029	1.61
West Hartford Reservoir	WHR	2,048	3.20
Wintonbury Reservoir	WTR	894	1.40