

8 Existing Watershed Practices

This section summarizes existing management practices in the watershed that could impact water quality in the North Branch Park River and its tributaries, focusing on municipal, institutional, and commercial/industrial practices. Additional information on residential, commercial, and municipal practices gathered through field assessments of upland areas in the watershed will be presented in a separate, companion report to this baseline assessment document.

8.1 Municipal Phase II Stormwater Program

The CTDEP regulates stormwater discharges from municipalities in designated urbanized areas under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4). The MS4 General Permit requires municipalities to register with CTDEP, develop and implement a Stormwater Management Plan that addresses six minimum control measures, and annually collect stormwater samples for representative industrial, commercial, and residential land uses. The six minimum control measures include public education and outreach, public participation, illicit discharge detection/elimination, construction stormwater management, post-construction stormwater management, and pollution prevention/good housekeeping. The CTDEP is currently in the process of revising and reissuing the MS4 General Permit.

The municipalities within the North Branch Park River watershed are regulated under the MS4 General Permit. The discussion in this section is limited to the communities of Hartford, West Hartford, and Bloomfield since these municipalities comprise the majority of the watershed land area and have the greatest

potential to impact water quality resulting from the discharge of urban stormwater runoff. The following sections summarize current and ongoing municipal stormwater management practices in Hartford, West Hartford, and Bloomfield as described in the Stormwater Management Plans and most recent annual reports prepared by each municipality. An evaluation of local land use regulations, including local stormwater management regulatory requirements, will be presented in a separate, companion report to this baseline assessment document.

The municipalities within the North Branch Park River watershed are regulated under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4).

8.1.1 Hartford

Much of the City of Hartford's stormwater system is maintained by the Metropolitan District Commission (MDC). Portions of the stormwater system are combined with the sanitary sewer system. The City of Hartford's Stormwater Management Plan applies to the areas in the City

that have separate sewer and stormwater drainage systems. Compliance with the MS4 General Permit has been a combined effort between the City of Hartford and the MDC. The City works collaboratively with the MDC in implementing their Stormwater Management Plan. This collaborative effort is documented in a Memorandum of Understanding (MOU) between the City and MDC. The City's stormwater management-related activities and practices are summarized as follows:

- The MDC has developed ordinances against illicit discharges to the stormwater system. Additionally, the City is in the process of developing procedures for eliminating illicit discharges.
- Trash is collected along river corridors during summer months, and the MDC participates as a partner in the annual Connecticut River Watershed Council's volunteer-based "Source to the Sound" cleanup.
- A goal of stenciling or re-stenciling 1,000 catch basins per year, beginning in 2004, is set to identify catch basins which drain to a watercourse. The stenciling is intended to discourage illegal dumping into storm drainage systems.
- The MDC held two household hazardous waste collection days in Hartford in 2008, during which 302 households participated and approximately 30,000 pounds of waste was collected.
- The MDC implements a catch basin inspection and maintenance program. During inspections, the MDC evaluates the catch basin for structural damage and cleanliness. Work Orders are generated as needed for maintenance requirements.
- Catch basins in the drainage system throughout the City are maintained through catch basin cleaning using vacuum trucks. Over 4,000 (more than 60 percent) catch basins were cleaned in 2008.
- Street sweeping is performed regularly throughout the City. Downtown streets are swept three times per week, residential streets once per week, and major City facilities once per year.
- The City conducts annual stormwater training for DPW staff, while the MDC conducts stormwater training for selected operational staff.
- In 2008 the MDC began "the MDC Community Forum Series" to allow communities to meet with MDC management to discuss the Clean Water Project, which includes a component on stormwater management.

As discussed in Section 5 of this baseline assessment report, the MDC and the City of Hartford are evaluating the use of green infrastructure approaches and low impact development (LID) to further manage wet weather flows, including storm runoff volume and quality. Such practices include the installation of rain gardens, open channels/swales, and pervious pavements which promote the infiltration of runoff into the soil instead of directing it into the storm and/or combined sewer system.

8.1.2 West Hartford

In accordance with their Stormwater Management Plan, the Town of West Hartford has implemented best management practices to meet each of the six minimum control measures,

including but not limited to public education, post-construction stormwater management, and pollution prevention and good housekeeping. All paved streets are swept once per year at a minimum, and in 2007 approximately 2,800 catch basins were cleaned. Magnesium chloride is used for roadway de-icing in West Hartford to reduce the use of road sand. An effort to replace existing catch basin covers with new covers labeled “Drains to Watercourse” is underway throughout the town.

8.1.3 Bloomfield

Streets and municipal parking lots in Bloomfield are swept at least once per year as soon as possible after snowmelt. Catch basins throughout the municipality are cleaned at least once per year, and more frequently if needed. Town-owned catch basins located in recreational and high pedestrian traffic areas are targeted for stenciling to identify the catch basin as draining to a watercourse, and will include approximately 30% of the total number of catch basins in Bloomfield. Two MDC-sponsored household hazardous water disposal days are held per year in Bloomfield. As part of the Town’s Stormwater Management Plan, stormwater outfalls and structures of the stormwater system have been mapped in support of the Town’s illicit discharge detection and elimination program, as required by the MS4 General Permit.

8.2 Source Controls and Pollution Prevention

8.2.1 Regulated Commercial and Industrial Facilities

As discussed in Section 5, there are a number of commercial and industrial facilities within the North Branch Park River watershed that have NPDES discharge permits and/or other regulated waste streams. These facilities are required to comply with the permit conditions and associated regulations/statutes, including source controls, pollution prevention, monitoring, treatment, and other best management practices as specified by the permits. The recent compliance records of these regulated facilities were reviewed to evaluate potential issues related to existing commercial and industrial facility practices in the watershed.

Table 8-1 lists industrial facilities in the watershed, which are registered under the CTDEP General Permit for the Discharge of Stormwater Associated with Industrial Activity, with stormwater sampling results that exceeded the General Permit effluent quality goals between August 2008 and August 2009. The number of facilities with results above the General Permit effluent quality goals (4) represents approximately 27 percent of the industrial facilities in the North Branch Park River watershed.

Table 8-1. Watershed Facilities with Stormwater Sample Results Above the Industrial Stormwater General Permit Effluent Quality Goals (August 2008 to August 2009)

Facility	Address	Subwatershed	Water Quality Parameters Detected Above the General Permit Effluent Quality Goals
Capewell Horsenails, Inc.	1404 Blue Hills Avenue, Bloomfield	Blue Hills Reservoir	Total Zinc, Aquatic Toxicity (LC50)
Finlay Printing, LLC	44 Tobey Road, Bloomfield	North Branch Park River	Chemical Oxygen Demand, Total Suspended Solids, Total Kjeldahl Nitrogen, Total Zinc
Kamatics Corporation	1330 Blue Hills Avenue, Bloomfield	Blue Hills Reservoir	Aquatic Toxicity (LC50)
Pepperidge Farm	1414 Blue Hills Avenue, Bloomfield	Wintonbury Reservoir	Total Kjeldahl Nitrogen

Source: CTDEP, August 2009.

Similarly, three of the four industrial facilities in the watershed with individual NPDES surface water discharge permits also reported violations as of October 2009 (*Table 8-2*).

Table 8-2. NPDES Regulated Facilities in the Watershed – Non-Compliance Record

Facility	Address	Quarters in Non-Compliance	Reasons for Non-Compliance
JDS Uniphase Corp	45 Griffin Road South; Bloomfield, CT	6 of 12	Effluent Violations (2)*, Report Violations (4)
Birken Manufacturing Company, Inc.	3 Old Windsor Road; Bloomfield, CT	4 of 12	Effluent Violations (2)*, Report Violations (2)
Swift Textile Metalizing, LLC	23 Britton Drive; Bloomfield, CT	2 of 12	Effluent Violations (2)*
Eisenhower Park	15 Sheep Hill Road; West Hartford, CT	--	--

* Unresolved significant non-compliance violations

Source: EPA, Facility Registry System (FRS), October 2009.

Several commercial properties in the watershed are registered under the CTDEP General Permit for the Discharge of Stormwater Associated with Commercial Activity. The CTDEP recently developed an outreach program for commercial establishments that may be subject to stormwater permitting requirements, waste regulations, pesticide regulations and other compliance requirements. Some examples of such establishments include garden centers, nurseries, greenhouses, hardware stores, and home improvement centers. The *Environmental Best Management Practices Guide for Small Businesses* (CTDEP, 2009) lists specific practices that are recommended for preventing and minimizing groundwater and surface water pollution as a result of day-to-day activities at these commercial facilities.

Facility operating practices were evaluated at several representative industrial and commercial facilities in the watershed to further assess the potential for water quality impacts, improvements in the use of BMPs, and potential retrofit opportunities. The results of this hotspot land use assessment will be discussed in a separate, companion report to this baseline assessment document.

8.2.2 Institutions and Golf Courses

The numerous institutional facilities (university campuses, schools, corporate campuses, and hospitals) and golf courses (Wintonbury Hills Golf Course, Tumble Brook Country Club, Gillette Ridge Golf Course, Hartford Golf Club, and Wampanoag Country Club) within the North Branch Park River watershed are major land owners that can have a significant impact

The numerous institutional facilities and golf courses within the North Branch Park River watershed are major land owners that can have a significant impact on the water quality of the North Branch Park River.

on the water quality of the North Branch Park River, through both new development and redevelopment projects, as well as grounds management of these properties, many of which are located adjacent to or nearby the North Branch Park River and its tributaries. Impacts from



The Wintonbury Hills Golf Course is one of five golf courses within the North Branch Park River watershed.

new development and redevelopment are primarily related to post-construction stormwater runoff, emphasizing the importance of LID and Green Infrastructure approaches such as the use of pervious pavement, rain gardens, green roofs, etc. Grounds management issues include facility operation and maintenance practices with potential for water quality impacts such as landscape maintenance (nutrient and Integrated Pest Management, grass clippings management, leaf/brush waste management, etc.), parking lot and road maintenance (deicing, snow management), drainage system maintenance (catch basins, storm drains, LID and traditional structural stormwater BMPs, etc.), and flooding issues.

Limited information was available on the existing practices of the institutional facilities and golf courses within the watershed, many of which are privately-owned.

The CTDEP guidance document *Best Management Practices for Golf Course Water Use* (July 2006) provides

recommended BMPs for golf courses to promote water conservation, preserve or improve water quality, and protect water resources. The document describes BMPs that minimize the potential of pollutants reaching surface or ground water as a result of golf course construction and maintenance operations, thereby minimizing non-point source pollution. Recommended BMPs are presented for vegetative buffers, wetlands and watercourse protection, stormwater management, erosion and sediment control, turf management (nutrient and Integrated Pest Management), equipment maintenance and fueling, chemical storage and handling, waste management, and spill response. Many golf courses in the state have implemented some form of IPM and other BMPs recommended by the CTDEP. The level of adherence to these practices is unknown for the golf courses in the North Branch Park River watershed.

Some of the university campuses and schools in the watershed have begun to implement environmentally-sensitive campus management practices. The University of Connecticut (UConn) is one such example. The UConn Law School follows many of the same initiatives that are practiced at the main UConn campus in Storrs. The UConn Office of Environmental Policy (OEP) promotes environmental responsibility and sustainability. Some of the current OEP initiatives include the development of an initial *Invasive Plant Species Management Plan*, consideration of porous pavers and other permeable pavement options for on-campus parking lots, the installation of rain gardens, and the overall implementation of sustainable design, specifically the implementation of the University's *Guidelines for Sustainable Design*, with provisions for both new and renovation projects. Although not reportedly used on the Law School Campus, IPM is actively utilized at the main Storrs and Depot Campuses in Mansfield, including athletic fields.

Ongoing outreach activities that are being conducted as part of the watershed management plan development for the North Branch Park River include coordination with campus facility managers to identify common issues of concern and more effective facility management approaches that are also sensitive to water quality.

Operating practices were evaluated at several representative institutional facilities in the watershed to further assess the potential for water quality impacts, as well as potential improvements to existing practices and retrofit opportunities. The results of this assessment will be discussed in a separate, companion report to this baseline assessment document.