

MS4 General Permit
Town of Southbury 2023 Annual Report
 Existing MS4 Permittee
 Permit Number GSM 00028
 January 1, 2023 – December 31, 2023

This report documents the Town of Southbury’s efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2023 to December 31, 2023.

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach

1.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
1-1 Implement public education and outreach	Ongoing	Attendance at Farmers’ Markets	Raise Public Awareness	Land Use Office	2/15/19	Ongoing	Approximately 500 attendees at the Farmers’ Market.
1-2 Address education/ outreach for pollutants of concern*	Ongoing	Storm Drain Markers (PRWC)	Raise Public Awareness	Land Use Office / Department of Public Works	2/15/19	Ongoing	Total of approximately 1,500.

1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.

Continued coordination with the Pomperaug River Watershed Coalition.
 Earth Day Celebration Spring 2024
 Energy Fair Spring 2024
 Green Expo Spring 2024

1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
See item 2.2 – Public Involvement	See PRWC Report Attached	Varied topics, see Appendix		Land Use Department in partnership with the PRWC
Town of Southbury’s Webpage has links addressing BMP for stormwater	Home owners (approx. 150)	Protecting the watershed, stormwater management		IT Department Post Document on website
Reviewing plans for development to ensure their compliance with LID and 2004 CT Stormwater Manual	Developers (approx. 20)	Impervious surfaces, BMP’s for site control	Sediment Load	Land Use Department, Public Works Department
Aquifer Protection Area Letter	150 Property owners within the APA regulated area	Aquifer protection regulated activities		Land Use Department
Hazardous Waste Drop-off April 22, July 22, September 23, 2023	Residents (approx. 90)	HHW events give residents the opportunity to properly dispose of hazardous materials that are commonly used in the home including paint, pesticides, household cleaners, poisons, and chemicals, helping to keep potentially hazardous waste out of local landfills and sewers, providing extra protection for wetlands and waterways.	Paint, cleaning products	Public Works in partnership with NVCOG

2. Public Involvement/Participation (See Below and PRWC Outreach Log CY 2020)

2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
2-1 Continue availability of Final Stormwater Management Plan to the public	Ongoing	Posting to website	Posted at southbury-ct.org	Land Use Dept.	4/3/2017	8/1/2021	Available on web www.southbury-ct.org
2-2 Comply with public notice requirements for Annual Reports	Ongoing	See report	See final report	Land Use Dept.	2/15/2024	2/15/2024	Available on web www.southbury-ct.org

2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

Hold periodic sub-committee meetings to discuss status of stormwater progress. Continue outreach with PRWC; stress BMPs whenever possible.

2.3 Public Involvement/Participation reporting metrics

Metrics	Date	Posted
Availability of the Stormwater Management Plan to public	3/31/2017	www.southbury-ct.org
Availability of Annual Report announced to public	2/15/2024	www.southbury-ct.org & First Selectman's Office

3. Illicit Discharge Detection and Elimination

3.1 BMP Summary

<i>BMP</i>	<i>Status</i>	<i>Activities in current reporting period</i>	<i>Measurable goal</i>	<i>Department / Person Responsible</i>	<i>Due</i>	<i>Date completed or projected completion date</i>	<i>Additional details</i>
3-1 Develop written IDDE program	Completed	IDDE plan for the town was developed in 2020.	Continue to implement the IDDE plan	Public Works / Land Use Dept.	Jul 1, 2018	Feb. 2020	
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In progress	Attribute table added to GIS database detailing location of outfalls as a separate layer. GIS data continues to be updated as Dry Weather Screening is performed.	Completed list of outfalls on the GIS database , allowing for tracking	Public Works	Jul 1, 2019	June 30, 2019	>95% outfalls and catch basins have been added as a layer to the Town's GIS. There is additional info available in GIS about each catch basin, for example maintenance and cleaning dates.
3-3 Implement citizen reporting program	Completed	Delegation of tasks to town staff from the online reporting system by the Public Works department.	Closed records on the IWORQ Database.	Public Works	Jul 1, 2017	Feb. 2017	
3-4 Establish legal authority to prohibit illicit discharges	In progress	Regulations were incorrectly adopted under Zoning regs and will need to be adopted as stand alone regs.	Amend the ordinance to adopt an enforcement arm of the WPCA	Soil and Erosion Control Officer/ In-Land Wetlands	Jul 1, 2018	Anticipated completion date December 31, 2024	
3-5 Develop record keeping system for IDDE tracking	Complete	Work orders tracked in the IWORQ system.	Maintained recorded	Public Works Tracks in IWORQ for the Legal Authority	Jul 1, 2017	Feb. 2017	
3-6 Address IDDE in areas with pollutants of concern	Ongoing	No areas of concern have been identified as needing follow-up.	Maintained record	Soil and Erosion Control Officer/ In-Land Wetlands	Not specified	Ongoing	

3.2 Describe any IDDE activities planned for the next year, if applicable.

Maintain master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the logging process.
 Hazardous waste collection days to reduce illegal discharge into watershed.
 Continue use of IWORQ Work Order tracking system to track reports made by concerned citizens.

3.3 List of citizen reports of suspected illicit discharges received during this reporting period (through iWorq).

Date of Report	Location / suspected source	Response taken
None reported		

3.4 Provide a record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period using the following table.

Location (Lat. Long./ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)
455 Community House Rd	Nov 24, 2020	Culvert to Ditch	None Found	UNK	Field Visit to Research – Nothing Found	NA
84 Hollow Swamp Rd	Jan 2, 2019	Water from Neighbor	None Found	UNK	Investigate and Found not to be an Illicit Discharge	NA

3.5 Briefly describe the method used to track illicit discharge reports, responses to those reports, and who was responsible for tracking this information.

Citizens are able to complete a Citizen Request Work Order online on the Town’s website or call the Public Works Office, as well as through the complaint section of the Land Use website to report their concerns. Public Works coordinates with the Soil and Erosion Control Officer/ Inland Wetlands Officer. A spreadsheet of the report log is maintained on the IWORQ database. Environmental related complaints are tracked in Municipality permitting system software with description, observations and resolutions notes.

3.6 Provide a summary of actions taken to address septic failures using the table below.

Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known
None reported.		

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	841
Estimated or actual number of interconnections	450
Outfall mapping complete	90%
Interconnection mapping complete	90%
System-wide mapping complete (detailed MS4 infrastructure)	90%
Outfall assessment and priority ranking	10%
Dry weather screening of all High and Low priority outfalls complete	10%
Catchment investigations complete	10%
Estimated percentage of MS4 catchment area investigated	10%

3.8 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often is it given (minimum once per year).

Vac Haul training for catch basin cleaning (all PW employees – annually)
Salt Calibration training (all PW employees – annually)

4. Construction Site Runoff Control

4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	Complete	IWWC Regulation update complete January 2020. Sediment and Erosion Control Ordinance is established.	Confirm that ordinance does not need to be changed to update BMP manual reference.	Land Use Department	July 1, 2019	Inland Wetlands Commission approved Regulation update in January 2020.	
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Ongoing	All applications funneled by online permitting system through Building Department to ensure all necessary approvals are received.	Check off list in the online permitting program	Land Use Department	July 1, 2017	Ongoing standard operating procedure.	
4-3 Review site plans for stormwater quality concerns	Ongoing	Approximately 25 site plans were reviewed for compliance.	All site plans are reviewed for compliance with a variety of regulations, including stormwater quality.	Land Use Department	July 1, 2017	Ongoing standard operating procedure.	BMP manual guidelines for the State of Connecticut are available as are optional pre-application meetings for all applicants.
4-4 Conduct site inspections	Ongoing	Site inspections were conducted with all major construction projects.	The Zoning and Wetlands Enforcement Officer maintains records of new constructions and problem areas that require site visits.	Land Use Department	July 1, 2017	Ongoing standard operating procedure.	Sediment and Erosion Control bonds are required for all projects.

BMP (Continued from above)	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
4-5 Implement procedure to allow public comment on site development	Ongoing	Strategic Task Force commission was established with an avenue for public survey to receive general comments.	Zoning Enforcement Officer Database of Complaints.	Land Use Department	July 1, 2017	Ongoing standard operating procedure.	Avenues for public comment on development projects are continuously being assessed and updated as needed.
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Ongoing	All pertinent regulatory material is reviewed to determine additional requirements prior to issuance of permit.	Permit language	Land Use Department	July 1, 2017	Ongoing standard operating procedure.	

4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.

Continue the following practices:

- Utilize IWORQ system for citizen feedback and reporting of land disturbance activities and illicit discharge.
- Site plan reviews
- Site inspections
- Continue interdepartmental cooperation in plan reviews and permit approvals
- Require consistency with 2002 Guidelines for Soil Erosion and Sediment Control and the 2004 Stormwater Quality Manual.

5. Post-construction Stormwater Management

5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	In progress	LID practices were recommended to be incorporated into the zoning regulation re-write currently out for RFP.	Planning requirements in the Zoning Regulation.	Land Use Department	Jul 1, 2021	Anticipated completion Date July 1, 2025	Requests contractors to explore alternate designs to incorporate LID designs. Encourages roof leader drains discharging to infiltrators for new construction single family dwellings.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	In progress	LID practices were recommended to be incorporated into the zoning regulation re-write currently out for RFP.	Verifiable during site plan review.	Land Use Department	Jul 1, 2019	Anticipated completion Date July 1, 2025	Confirmation by inspection or signed affidavit by contractor before Certificate of Zoning Compliance is issued on new projects.
5-3 Identify retention and detention ponds in priority areas	Complete	All town-maintained basins identified and mapped. Land Use follows up with private basin owners.	Create maps and associated status spreadsheet.	Public Works Department	Jul 1, 2019	Completed 12/31/2023	List of town owned Detention basins updated and sent to Public Works Department by the Inland Wetlands Department.
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	Complete	Catch basins are digitized on a GIS map viewer. Detention basin maintenance schedule has been created.	Service log for detention basins.	Public Works	Jul 1, 2019	July 2019	Spreadsheet of detention basin maintenance created and updated regularly.
5-5 DCIA mapping	Complete	The Town contracted with a consultant to perform DCIA baseline calculation.	Excel Spreadsheet Calculated percentage	Land use Department	Jul 1, 2020	Completed 7/14/2022	

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
5-6 Address post-construction issues in areas with pollutants of concern continued	Ongoing	Identify erosion and sediment problems in impaired waters through complaint system. Develop and implement solutions to the problems as funding is available, or use legal authority to hold property owners accountable.	Town staff to correct issues on Town-owned property to the extent practicable and incorporated into list of planning projects. Privately-owned land typically issued wetlands violation notice.	Public: Land Use Department Private: Engineering firm	Not specified	Ongoing standard operating procedure.	Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.
5-7 Turf Reduction and vegetative buffers	Complete	The Town's Wetland Regulations require applicants to preserve as much of the natural buffer as possible.	Review needed for requirements for turf reduction.	Land Use Department	Not specified	Ongoing standard operating procedure	
5-8 Standards to protect trees	Ongoing	The Town's streetscape plan requires trees along developed areas. These trees are maintained by an arborist throughout the year, including trimming and pruning.	Maintain the Town's streetscape and status as a "Tree City".	Land Use Department / Public Works Department	Not specified	Ongoing standard operating procedure	The landscaping plan is not only aesthetically pleasing, it is also important for evapotranspiration.
5-9 Coordinate with local Health Department	Ongoing	The local Health Department is included in application reviews.	Continue to coordinate with the Health Department.	Land Use Department / Building Department	Not specified	Ongoing standard operating procedure	

5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.

Continue to encourage and enforce LID site development practices.
 Continue requirements for access easement in subdivisions.
 Continue to address post-construction sediment and erosion control issues as they occur.
 Continue to encourage preservation and enhancement of natural buffers.
 Continue to require consistency with the 2004 Stormwater Quality Manual.
 Continue interdepartment coordination in application reviews.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	593.6 acres
DCIA disconnected (redevelopment plus retrofits)	TBD
Retrofits completed	0
DCIA disconnected	0 % this year / 0 % total since 2012
Estimated cost of retrofits	Not yet determined
Detention or retention ponds identified	35 (town-maintained)

5.4 Briefly describe the method to be used to determine baseline DCIA.

The town contracted with a consultant to calculate DCIA baseline. DCIA was estimated from high-resolution impervious cover (excluding state roads) and land use/cover data available from UConn NEMO and empirical equations (Sutherland Equations) relating DCIA and Total Impervious Area (TIA). The DCIA estimates were developed at the CTDEEP Local Basin scale.

6. Pollution Prevention/Good Housekeeping

6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program	Ongoing	Annual trainings held for all relevant Public Works employees on salt calibration and operation of vac truck.	Attendance Records	Public Works	Jul 1, 2017	Ongoing Standard Operating Procedure	
6-2 Implement MS4 property and operations maintenance	Ongoing	Funding allocated to Public Works for drainage maintenance and repair including detention basins, catch basins and culverts.	Report from director	Public Works Director	Jul 1, 2018	Ongoing standard operating procedure	
6-3 Implement coordination with interconnected MS4s	Ongoing	The Town continues to work with CT Water to inspect and rehabilitate manholes to reduce I&I. The Town continues to coordinate with DOT for the state-owned storm system, including crossings and culverts.	Meeting with Connecticut Water, sewage division scheduled and minutes recorded.	Public Works Director	Not specified	Ongoing	

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-4 Develop/implement program to control other sources of pollutants to the MS4	In progress	Create a list of facilities in town not required to register under the Industrial Stormwater Permit, and review screening and monitoring results for compliance.	Review stormwater general permit registrant list and identify potential contributing facilities not on the list.	Public Works Department / Engineering firm	Not specified	Anticipated completion date December 31, 2024	Compare locations of locations identified and monitor results to determine if further investigation is needed.
6-5 Evaluate additional measures for discharges to impaired waters	See BPM 6-10 - 6-13						
6-6 Track projects that disconnect DCIA	In progress	Review of previous projects within Town dating back to July of 2012 did not identify any significant disconnect projects.	Create a spreadsheet to track disconnected DCIA acreage.	Land Use Department / Public Works Department	Jul 1, 2017	Anticipated completion date December 31, 2024	
6-7 Implement infrastructure repair/rehab program	Ongoing	Drainage system maintenance and repair continues, including detention basins, and pipe inspections performed with a new camera.	Spreadsheet and repair schedule	Public Works Department	Jul 1, 2021	Ongoing	

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-8 Develop/implement plan to identify/prioritize retrofit projects	In progress	The Town has contracted with a consultant to develop the DCIA Plan. In 2022, a review of Town-owned properties for potential DCIA reduction retrofit sites was performed.	Identify required repairs based on data from previous permit. Make repairs as funding becomes available.	Public Works Department	Jul 1, 2020	Anticipated completion date Dec 31, 2024	
6-9 Implement retrofit projects to disconnect 2% of DCIA	Ongoing	The Town has contracted with a consultant to review Town-owned properties for potential DCIA reduction retrofit sites.	Disconnect 2% of the Town's DCIA	Public Works Department	Jul 1, 2022	Anticipated completion date Dec 31, 2025	
6-10 Develop/implement street sweeping program	Ongoing	The Town sweeps all its streets twice a year, and additional areas on an as-needed basis.	Spreadsheet	Public Works Department	Jul 1, 2017	Ongoing standard operating procedure	
6-11 Develop/implement catch basin cleaning program	Ongoing	The Town vacuums 10% of its catch basin a year. A new vac truck was purchased to expedite this process.	Spreadsheet	Public Works Department	Jul 1, 2020	Ongoing standard operating procedure	Catch basins to be numbered and organized for more accurate tonnage numbers.
6-12 Develop/implement snow management practices	Ongoing	The Town trains Public Works staff on Salt Calibration to reduce waste and unnecessary salting.	Management manual	Public Works Department	Jul 1, 2018	Ongoing standard operating procedure	
6-13 Map and inventory highly erosive areas in Town Right of Way (ROW)	Ongoing	Eroding areas in ROW are reported by Town staff and added to list of projects.	Identify areas contributing large volumes of sediment to Town waterbodies.	Public Works Department		Ongoing standard operating procedure	Eroding areas are stabilized with rip rap to prevent further deterioration.

6.2 Describe any Pollution Prevention/Good Housekeeping activities planned for the next year, if applicable.

Paint, batteries, waste oil, antifreeze accepted at town transfer station.
 Household Hazardous Waste days held 3x/year.
 Continue employee training programs.
 Continue street sweeping programs.
 Continue catch basin maintenance and inspections.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes
Street sweeping	
Curb miles swept	260 miles
Volume (or mass) of material collected	XXX
Catch basin cleaning	
Total catch basins in priority areas	Unknown
Total catch basins in MS4	6391
Catch basins inspected	869
Catch basins cleaned	712
Volume (or mass) of material removed from all catch basins	506 CF
Volume removed from catch basins to impaired waters (if known)	Not known
Snow management	
Type(s) of deicing material used	Treated Rock Salt
Total amount of each deicing material applied	XXX
Type(s) of deicing equipment used	Salt Spreaders
Road miles treated	126 miles
Snow disposal location	PW laydown yard
Staff training provided on application methods & equipment	Yes
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	0 lbs.
Reduction in turf area (since start of permit)	0 acres
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	\$0

6.4 Catch basin cleaning program

Provide any updates or modifications to your catch basin cleaning program

Streets are assigned to inspection teams by the Highway Foreman. Crews utilize an industrial vacuum truck to travel the assignment length to inspect and inventory catch basins. If there is sediment in the catch basin, the grate is pulled and the silts and sands are vacuumed out. Chronic silt migration resulting from gravel driveways is addressed by requiring the resident to address the issue creating the problem. Material that is vacuumed out of the catch basin is taken to the Public Works yard.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project.

The retrofit identification and prioritization process consists of a desktop screening evaluation to identify potential retrofit sites followed by field evaluations to confirm feasibility of retrofits, develop retrofit concepts, and prioritize retrofit projects. The initial desktop analysis is used to determine which sites to further evaluate prioritized sites with the following criteria:

1. Municipally-owned properties
2. Greater than 1 acre of impervious area or greater than 30% of impervious area (using high-resolution impervious cover and land use/cover data available from UConn NEMO)
3. Moderately well drained to excessively well drained soils (using USDA/NRCS 2007 Soil Drainage Class data)
4. Mostly or entirely outside of the 100 year flood zone (using FEMA Flood Zone data)

Once site visits are completed, preliminary stormwater retrofit concepts will be identified and evaluated for budgetary cost and approximate amount of DCIA that would be disconnected.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years.

The retrofit plan will identify retrofit sites and projects. The plan will outline a recommended list of prioritized retrofit projects to achieve the 1% DCIA disconnection goal annually and in future years, to the Maximum Extent Practicable.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years.

The retrofit plan will identify retrofit sites and projects. The plan will outline a recommended list of prioritized retrofit projects to achieve the 1% DCIA disconnection goal annually and in future years, to the Maximum Extent Practicable.

Part II: Impaired waters investigation and monitoring

1. Impaired waters investigation and monitoring program

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution. This data is available on the MS4 map viewer: <http://s.uconn.edu/ctms4map>.

Nitrogen/ Phosphorus Bacteria Mercury Other Pollutant of Concern

1.2 Describe program status.

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.

Impaired waterbodies are monitored and tested several times annually by the Pomperaug River Watershed Coalition. Results can be found at <https://www.pomperaug.org/monitoring>. Approximately 372 outfalls have been mapped in the town's priority area. 99 outfalls still require initial screening. 33 outfalls were found to have evidence of possible illicit discharge in previous screenings. In the past, a consultant performed the outfall screening. The town has now contracted with a consultant that will provide training to relevant town employees and allow town employees to continue screening of outfalls independently. Screening results have been included in past reports.

2. Screening data for outfalls to impaired waterbodies

2.1 Screening data

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year's screening data showing a cumulative list of outfall screening data.

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?
Nothing to report this period. Consultant will train town staff to performs screenings in 2024.					

2.2 Credit for screening data collected under 2004 permit

If any outfalls to impaired waters were sampled under the 2004 MS4 permit, that data can count towards the monitoring requirements under the modified 2017 MS4 permit. Complete the table below to record sampling data for any outfalls to impaired waters under the 2004 MS4 permit.

Outfall	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?
None reported.					

3. Follow-up investigations

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
Nothing to report.		

4. Prioritized outfall monitoring

Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2020.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
Not yet determined				

Part III: Additional IDDE Program Data

1. Assessment and Priority Ranking of Catchments data

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
CT6800-00_01	B	1
CT-6800-00_03	B	2

2. Outfall and Interconnection Screening and Sampling data

2.1 Dry weather screening and sampling data from outfalls and interconnections

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
Nothing to report this period. Consultant will train town staff to performs screenings in 2024.										

2.2 Wet weather sample and inspection data

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor.

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern
Nothing to report this period. Consultant will train town staff to performs screenings in 2024.									

3. Catchment Investigation data

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors
Nothing to report this period. Consultant will train town staff to performs screenings in 2024.		

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.

11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).

3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants
Nothing to report this period. Consultant will train town staff to performs screenings in 2024.					

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
Nothing to report this period. Consultant will train town staff to performs screenings in 2024.				

3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed
Nothing to report this period. Consultant will train town staff to performs screenings in 2024.							

Part IV: Certification

“I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute.”

Chief Elected Official or Principal Executive Officer	Document Prepared by
Print name: Jeff Manville, First Selectman	Print name: Matt Tarnowski, Project Administrator
Signature / Date:	Signature / Date:

PRWC Outreach Log 2023 (Jan - Dec)



SUMMARY

Total Number of Outreach Programs & Water Resource Planning Meetings: 81

(does not include mass media hits)

Number of Program & Meeting Attendees: 2,234*

(does not include mass media)

Additional Number Reached through Mass Media Outreach: 138,939*

(newsletter, brochures, other publications, website, radio appearances, educational interpretive signage and storm drain markers)

Date	Topic / Program Title	Venue	Audience	# of Attendees / Viewers	# of Programs
February 15	Rain Barrel Workshop	Woodbury Fire House	Watershed Residents and beyond	40	1
March 18	Vernal Pools Presentation (part of Creating a Ripple Effect: World Water Day Celebration)	Institute for American Indian Studies, Washington, CT	Watershed Residents and beyond	15	1
March 23	Wet N' Wild Trivia Night	The Tavern at Heritage Hotel, Southbury	Watershed Residents and beyond	50	1
March 30	Watershed Benefit	Litchfield Distillery, Litchfield	Watershed Residents and beyond	50	1
April 20	Earth Day Trivia Night	The Tavern at Heritage Hotel, Southbury	Watershed Residents and beyond	60	1
April 19	Earth Day	Hollow Park, Woodbury	<i>Canceled due to heavy rain / saturated field</i>	-	-
May 16	River Ramblers	Janie Pierce Park, Southbury, CT	Watershed Residents and beyond	3	1
June - Oct	Stream Sampling	Varied Throughout Watershed	Volunteers	3	5
July - Nov	Monthly Newsletter	Email	Watershed Residents and beyond	1300	5
July 8	River Ramblers	Swendsen Farm Pres. Bethlehem, CT	<i>Canceled due to weather</i>	-	-
July 18-22	Water Chestnut Removal	Lake Stibbs, Southbury	<i>Canceled due to breach in the dam</i>	-	-
July 27	Riparian Buffer Restoration Ribbon Cutting Ceremony	Lake Stibbs, Southbury	<i>Canceled due to breach in the dam</i>	-	-
August 1	Invasive Aquatic Plant Workshop	Southbury Public Library	Watershed Residents and beyond	6	1
August 12	River Ramblers	Bent of the River Preserve, Southbury, CT	Watershed Residents and beyond	9	1

Date	Topic / Program Title	Venue	Audience	# of Attendees / Viewers	# of Programs
September 7	Water-Themed Trivia Night	The Tavern at Heritage Hotel, Southbury	Watershed Residents and beyond	30	1
September 9	<i>River Ramblers</i>	<i>Steep Rock / *New West Mt. Hillside Farm</i>	<i>Canceled due to weather</i>	-	-
September 10	A Wild World: Fundraising Concert	Woodbury Brewing Co.	Watershed Residents and beyond	80	1
September 12	Macroinvertebrate (RBV) Training	Woodbury Public Library	Volunteers	8	1
September 16, 17, 23	Macroinvertebrate (RBV) Survey	Varied Throughout Watershed	Volunteers	8	4
September 17	Macroinvertebrates & Water Quality Station <i>(part of Roxbury Land Trust's RiverFest: Down by the River Nature Celebration)</i>	River Road Preserve, Roxbury, CT	Watershed Residents and beyond	75	1
September 17	Woodbury Fall Fest	Hollow Park, Woodbury, CT (hosted by Woodbury Chamber of Commerce)	Watershed Residents and beyond	60	1
September 30	Southbury Energy Fair	Southbury Town Hall Green (hosted by Sustainable Southbury)	Watershed Residents and beyond	40	1
October 14	<i>Dr. Marc Taylor Memorial Walk</i>	<i>Platt Farm Preserve, Southbury, CT</i>	<i>Canceled due to weather</i>	-	-
October 19	The Incredible Journey (Water Cycle) <i>(part of ASAP!'s Metamorphosis Project)</i>	Southford Falls State Park	3rd, 4th, 5th Graders from Children's Community School	50	2
November 4	O&G Geology Tour	O&G's Traprock Quarry in Southbury (co-hosted with Flanders Nature Center & Land Trust)	Watershed Residents and beyond	55	2
November 13	Strategies to Address Flood Damage: Streambank Stability and Trees in the River Channel	Woodbury Inland Wetlands Agency	Woodbury Residents	18	1
December 11	"Trout are Made of Tree" (for Drop-in Storytime)	Southbury Public Library	Children (ages 2-5) & their guardians	10	1
December 27	Salt Watch Monitoring	Ewald Park and Cedarland Park	Volunteers	3	1

**Recurring Meetings with Regular Member Participation
and/or Programs that Take Place on Various Dates with Varied Participants**

Date	Topic / Program Title	Venue	Audience	# of Attendees / Viewers	# of Programs
Various Dates (Monthly)	Water Planning Council Advisory Group (WPCAG)	Zoom Conference Calls	WPCAG Members & Public	25	8
Various Dates (Monthly)	Water Planning Council (WPC)	Zoom Conference Calls	Council Members, Subcommittee Members & Public	25	8
Various Dates (Quarterly)	DEEP Environmental Advocates Meetings	Zoom Conference Calls	Environmental Advocates Group Members	15	1
Various Dates (Quarterly)	Heritage Village Water System Advisory Group	Zoom Conference Calls	Connecticut Water Company Staff and HVWS Advisory Group Members	12	2
Various Dates (Quarterly)	Conservation Partners of the Pomperaug (CPoP)	Zoom / Steep Rock Association	Conservation Partners	12	4
Various Dates	Ambient Water Quality Monitoring (Bacteria & Nitrate)	15 Sampling Stations Watershed Wide	Volunteers	6	5
Various Dates	Sustainable CT / Sustainable Southbury Meetings	Zoom	Southbury Residents & Town Staff	7	1
Various Dates	Best Management Practices / Invasive Species / Riparian Buffers / Stream Crossings	Private Property	Landowners	43	22

PRWC Outreach through Mass Media

Date	Activity	Audience	# Reached**
Ongoing	PRWC Website (www.pomperaug.org)	Watershed Residents and beyond	3,094 unique users
Ongoing	RiverSmart Website (www.riversmartct.org)	Watershed Residents and beyond	496 unique users
Ongoing	PRWC Newsletter	Watershed Residents and beyond	1,285 digital copies emailed each month June-Nov.
November	Print/Mailed Winter Newsletter / Annual Report	Watershed Residents and beyond	1,200 print copies mailed
Ongoing	PRWC Facebook Page	Watershed Residents and beyond	1.3K Followers
Ongoing	PRWC Instagram Page	Watershed Residents and beyond	964 followers
Ongoing	Press Releases in Voices Newspaper	Watershed Residents	31,300 per issue
Ongoing	Press Releases in Waterbury Rep-Am	Watershed Residents and beyond	45,000 per issue
Ongoing	Press Releases in Litchfield County Times	Watershed Residents and beyond	5000 per issue
Ongoing	Danbury News Times	Watershed Residents and beyond	20,500 per issue
Ongoing	The Patch (Southbury)	Southbury Residents	Unknown
Ongoing	Hamlet Hub (Southbury)	Southbury Residents	Unknown

Date	Activity	Audience	# Reached**
Ongoing	Storm Drain Markers	Watershed Residents	30,000
Ongoing	Educational Interpretive Signage at Cedarland Park, Community House Park, & Lake Stibbs Southbury	Watershed Residents	Unknown
Ongoing	Informational Brochures, Newsletters,, and Displays at Public Libraries, Town Hall Offices, and locally owned businesses	Watershed Residents and beyond	Unknown
Ongoing	Southbury Code Red System & HVWC Customer Notification Call Lists -- Low Flow Operations Plan – Thresholds reached / request for voluntary water conservation	Southbury Residents / HVWC customers	Unknown No Alerts Issued in 2023

**** There may be overlap in persons reached.**

PRWC Participation in Trainings / Workshops / Conferences
(Topics include but not limited to Municipal Stormwater, Climate Resiliency, Water Resource Protections, and Water Quality)

Date	Activity	Venue/Host
February 14	IWWA Training Session w/ Janet Brooks, Environmental Attorney Determination of Exempt Activities including Agricultural Exemptions	Town of Woodbury Inland Wetlands and Watercourses Agency
April 4	CT DOT Information Session I-84 Bridge Improvement Plans in Southbury	CT DOT / Zoom
April 27	USGS 2022 Drought in New England Recap	USGS / Webinar
June 16-18	Lifeguard Training & Certification	Newtown Community Center
August 31	River Dynamics and Riparian Buffer Management w/ Todd Bobowick of NRCS	Town of Woodbury - Shove Bldg Joint Land Use Commissions
September 26	UCONN CLEAR: A New Stormwater Quality Manual for CT	UCONN Clean / Webinar
December 7	History Talks: People of the Pomperaug	Southbury 350th Celebration Southbury Public Library

2023 Dr. Marc Taylor Intern Achievements

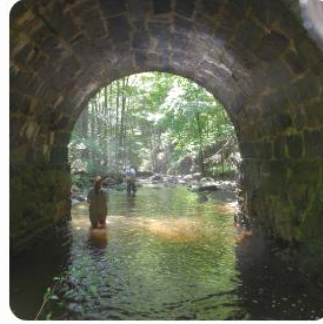
PRWC employed two Dr. Marc Taylor Interns for an eight-week field season. They completed an impressive season of technical work including North Atlantic Aquatic Connectivity Collaborative Stream Crossing Assessments and Ambient Water Quality Monitoring. The team achieved the following:

- Completed all remaining accessible road-stream crossing assessments (bridges and culverts) in Woodbury and 163 new assessments in Southbury following North Atlantic Aquatic Connectivity Collaborative (NAACC) protocols to evaluate suitability for aquatic life passage. Aquatic life passage barrier ratings and field data for each crossing can be viewed online at https://naacc.org/naacc_search_crossing.cfm.
- Authored a comprehensive Woodbury Road-Stream Crossing Management Plan evaluating all Woodbury road-stream crossings for their ability to support aquatic organism passage and identifying the culvert and bridge crossings deemed the most significant barriers to passage.
- Collected 2 rounds of monthly bacteria, nitrate, and conductivity samples from 15 sites located throughout the watershed providing ambient water quality data to Connecticut Department of Energy and Environmental Protection
 - Updated an online, interactive, color-coded map of sampling results that shows whether the given location is suitable for swimming, fishing, boating, etc. Map is viewable at www.pomperaug.org/monitoring
 - Updated web pages for each sampling site to include a table showing bacteria, nitrate, and conductivity data for each sampling round.
- Conducted thermal spot checks for stream temperature data loggers placed at 11 monitoring sites throughout the watershed. Stream temperature is taken and recorded to serve as a data point to compare the logger data to for quality assurance purposes.
- Compiled a comparison analysis of riparian buffer conditions and land use activities for two similar open space parcels in Woodbury and Southbury to demonstrate alternative land management.



2023 North Atlantic Aquatic Connectivity Collaborative (NAACC) Assessment Summary

PRWC began surveying road-stream crossings in the Pomperaug Watershed following protocol from the North Atlantic Aquatic Connectivity Collaborative (NAACC) during the 2020 field season. PRWC participates in the assessment of road crossings for non-tidal streams and rivers, using NAACC's data collection forms and training materials.

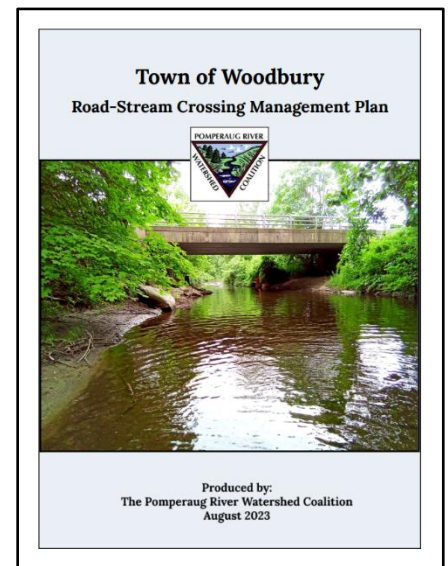


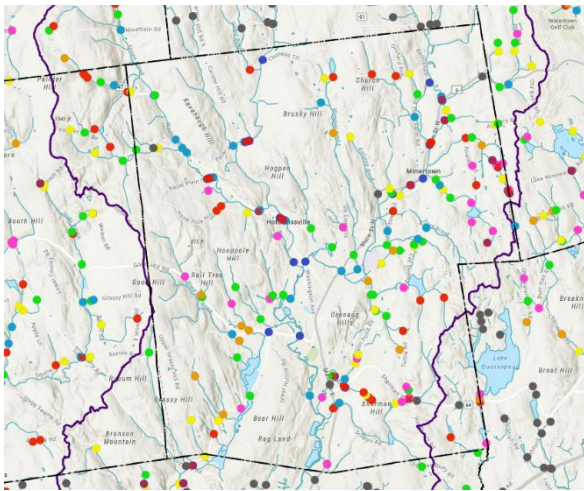
Poorly designed and undersized culverts and bridges are barriers to aquatic organisms and hazards to communities during storms. Streams are linear habitats for aquatic and semi-aquatic life species such as Brook Trout, American eel, stream salamanders, turtles, and crayfish. Road crossings can fragment streams into small pieces, preventing organisms from accessing critical habitats. These crossings may also be infrastructure liabilities and flooding hazards for communities. During storms, undersized and improperly installed culverts can become clogged with debris or overwhelmed, leading to road flooding, stream bank erosion, or even wash out the whole road.

Through these assessments, data collected by field assessors are submitted to NAACC and processed to be rated according to the severity of the barrier they present for aquatic organism passage. This helps provide mapped information on culverts, bridges, or crossings that may need to be prioritized for repair or replacement to improve the connectivity of the stream or river both in terms of streamflow and discharge of storm events as well as aquatic life movement up and down the system. Aquatic life passage barrier ratings and field data for each crossing can be viewed online at https://naacc.org/naacc_search_crossing.cfm.

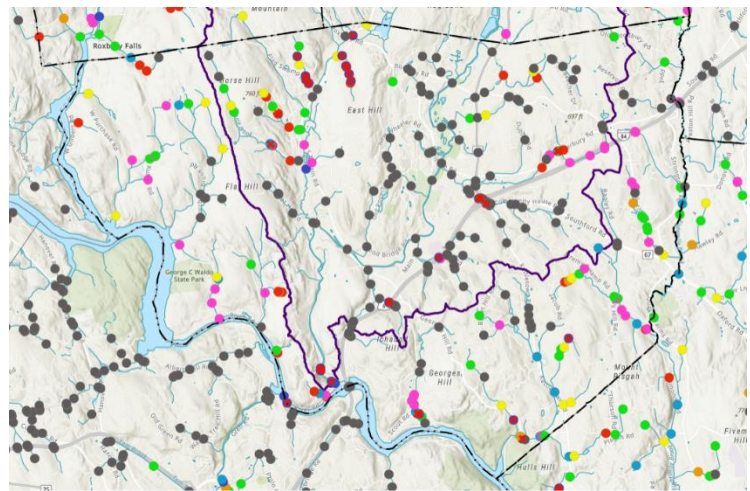
As of August 2023, PRWC has completed assessments for all of the safely accessible road-stream crossings in Woodbury (163 public crossings out of the 171 that have been identified), and prepared a corresponding [Road-Stream Crossing Management Plan](#) for the Town of Woodbury. This Plan will help the Town prioritize repair or replacement of the crossings with an added layer of climate resiliency planning.

Additionally, PRWC has assessed 165 of approx. 316 road-stream crossing assessments in Southbury - an effort supported by the Town of Southbury's Non-profit Assistance Grants made possible with American Rescue Plan Act (ARPA) funds awarded to the Town. PRWC will assess the remaining 150 crossings in Southbury in 2024.



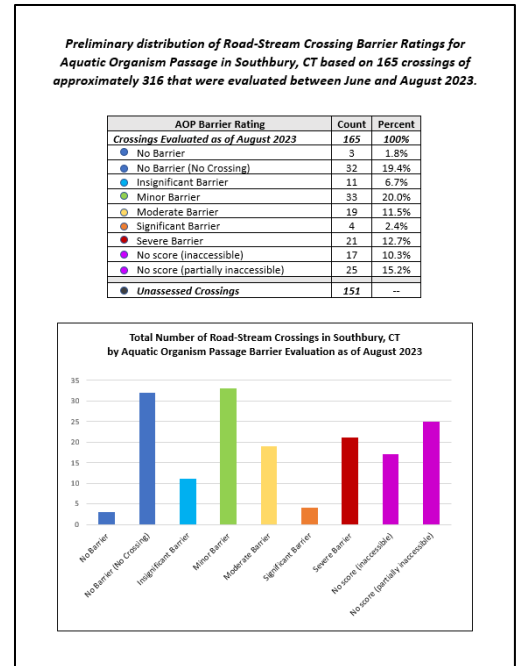
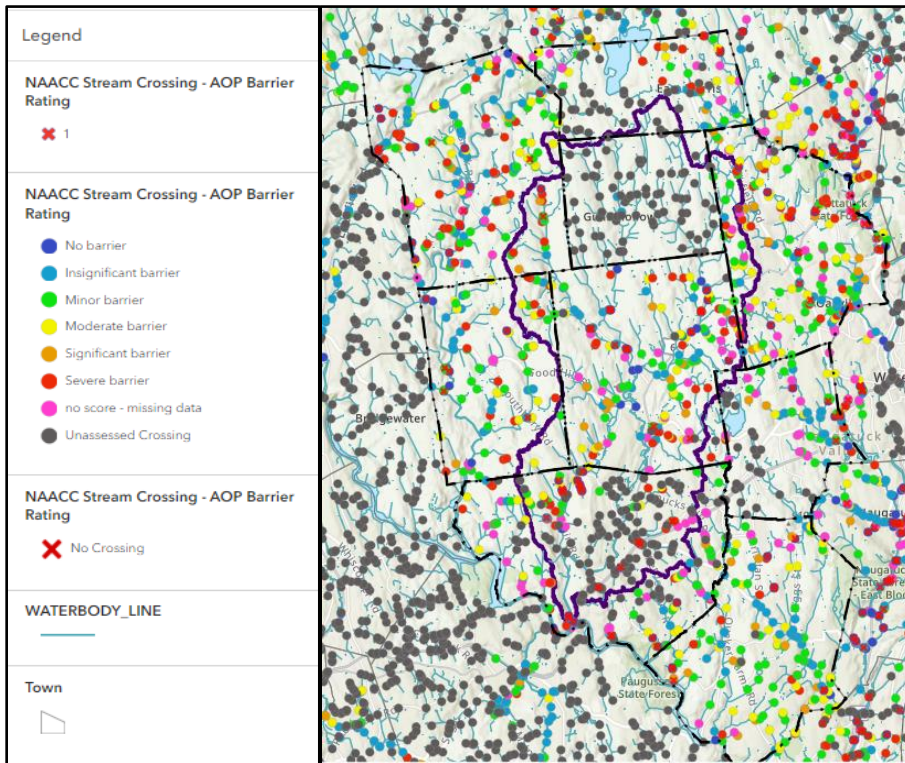


Woodbury



Southbury

PRWC is seeking grant funding to continue this work and will expand the effort further into Bethlehem as funds are awarded. Bethlehem has approximately 80 identified crossings. PRWC will review the assessment data with Town Land Use and Department of Public Works and the Regional Planning Agency (NVCOG) staff to prioritize crossing upgrades based on those that present the great barrier for aquatic organism passage, under-sizing to handle storm volumes, or issues related to deterioration of infrastructure that may result in culvert failure.



NOTE: PRWC has conducted road-stream crossing assessments in Woodbury, Bethlehem, and Southbury. The Housatonic Valley Association has completed assessments in the Pomperaug Watershed neighboring towns of Oxford, Watertown, Morris, Washington, and Roxbury.

Ambient Water Quality Monitoring Summary

PRWC launched a bacteria and nitrate monitoring program in 2019 wherein stream water samples are collected from 15 sites throughout the watershed. Sampling frequency has been once or twice a month between April and October. The samples collected by PRWC staff and volunteers are delivered to a state certified water testing laboratory for analysis and results are reported back to PRWC. Data is made available to the watershed community in the form of an interactive map on PRWC's website at www.pompearug.org/monitoring.

By sampling for *E. coli* bacteria and nitrate, PRWC is able to further characterize pollutant sources and problem areas, and further bracket priority areas for non-point source pollution and stormwater runoff reduction projects. These data also help differentiate sources of bacteria contamination in the river.

In 2023, PRWC published two Technical Memos - one presenting the findings of its Ambient Water Quality Monitoring and the other detailing the findings of a complementary Streamwalk Assessment Survey of Weekeepemee River. These findings were further integrated into Pomperaug Watershed Based Plan Addendum which highlights the updated existing conditions and presents a reprioritized best management practice implementation strategy to address polluted runoff and achieve compliance with state and federal water quality standards.

The Technical Memos and Watershed Based Plan Addendum are available to view on the PRWC website at www.pomperaug.org/scientific-reports.

TECHNICAL MEMO

Ambient Water Quality Monitoring of Rivers and Streams in the Pomperaug River Watershed Southbury, Woodbury, Bethlehem, CT

Water Samples Collected by Pomperaug River Watershed Coalition June to October 2021 and April to May 2022

Memo Prepared by Carol Haskins, PRWC Executive Director

INTRODUCTION


Ambient water quality monitoring (AWQM) has been performed by the Pomperaug River Watershed Coalition (PRWC) to further assess and bracket potential sources of bacteria pollution associated with recreational impairments of the Weekeepemee River, Pomperaug River, and Transylvania Brook since 2019. Based on pollutant load modeling conducted in support of developing a Watershed Based Plan (2018), it is deemed likely that the Homewaug River may also have high levels of bacteria and may not fully support recreational uses. This river had not been previously monitored for bacteria and recreational use support. Therefore, it was also included in the ambient water quality monitoring program along with one of its primary tributaries - East Spring Brook.

AWQM data serve as a screening-level tool for tracking down potential pollutant sources in a watershed and identifying possible locations where restoration opportunities and mitigation measures could be implemented. This Technical Memo presents mapped and tabulated results for each round of monitoring data collected between June and October 2021 and between April and May 2022. These data were collected within the scope of the Pomperaug River Watershed Plan Implementation Groundwork Project funded in part by the Connecticut Department of Energy and Environmental Protection through a United States Environmental Protection Agency Clean Water Act Section 319 Nonpoint Source Grant. Data collection was subject to data quality provisions detailed in a Quality Assurance Project Plan (QAPP). These data are further summarized and presented in a manner that allows for a comparison of the findings during wet weather monitoring events to dry weather monitoring events to all events, and a discussion of the findings in relation to compliance with Connecticut's Water Quality Standards for recreation. Although not collected in strict adherence of the QAPP, ambient water quality monitoring data collected by PRWC in 2019, 2020, and the latter portion of 2022 were considered as secondary data in support of the overall evaluation of current water quality conditions in the Pomperaug Watershed. As other data for these time frames do not exist, they were deemed meaningful in this analysis and were considered reliable as their collection protocols are well documented and generally follow the framework of the approved QAPP.

METHODS


Stream segments in the Pomperaug Watershed listed as impaired were designated on the basis of spatially and temporally limited datasets. **Table 1 (Figure 1)** and cannot be removed from the impaired waters list without supporting data. Thus, establishing a network of fixed ambient water quality monitoring stations was a key recommendation in the Pomperaug Watershed Based Plan. Pomperaug River Watershed Coalition followed suit and established a network of 15 fixed ambient stream monitoring stations throughout the watershed where stream water samples and field measurements were collected in effort to get a broader sense of stream health and potential pollutant sources contributing to the stream segments currently listed as impaired or speculated to be impaired. **Figure 1 (Table 2)**. PRWC first developed protocols for its ambient water quality monitoring program in 2019 and began collecting bacteria and nitrate data. Development of a Quality Assurance Project Plan (QAPP) with approval by Connecticut Department of Energy and Environmental Protection (CT DEEP) and United States Environmental Protection Agency (USEPA) was required under the provisions of the 319 Grant for the Pomperaug River Watershed Plan Implementation Project. Accordingly, PRWC

TECHNICAL MEMO - Pomperaug Watershed Ambient Water Quality Monitoring 3 of 12



POMPERAUG RIVER WATERSHED BASED PLAN ADDENDUM
*Updated Existing Conditions Report (through 2022)
& Reprioritized Best Management Practices
Implementation Strategy*

Prepared by Pomperaug River Watershed Coalition



TECHNICAL MEMO

Weekeepemee River Streamwalk Assessment Survey Woodbury and Bethlehem, CT

Field Assessments Completed July and August 2021 by Pomperaug River Watershed Coalition

Project Led and Memo Prepared by Carol Haskins, PRWC Executive Director

INTRODUCTION

Pomperaug River Watershed Coalition (PRWC) deployed a project team in Summer 2021 to conduct visual field investigations of the Weekeepemee River watershed to further assess potential sources of bacteria that contribute to the recreational use water quality impairment of this river. This impairment was designated in 2012 based on ambient water quality monitoring data collected by the Connecticut Department of Energy and Environmental Protection (CTDEEP) at Hochkissville Bridge in Woodbury, CT in 2010 (CTDEEP, 2012). PRWC developed a Watershed Based Plan (WBP) in 2018 to identify strategies to improve water quality (i.e. decrease bacteria counts) in this and other impaired river segments in the Pomperaug Watershed (**Figure 2**). Development of the WBP included reviewing stream monitoring data and watershed attributes, running a pollutant load model, and conducting visual assessments (or "streamwalk surveys") of impaired rivers. Due to funding constraints for that project, full assessments of each impaired stream reach within the Pomperaug Watershed could not be conducted at the time the WBP was developed. The Weekeepemee River was one such area that was not fully assessed. Visual field investigations (or streamwalk surveys) are an important screening-level tool for locating potential pollutant sources in a watershed and identifying possible locations where restoration opportunities and mitigation measures could be implemented to yield water quality improvements.

Conducting a streamwalk survey of the impaired segment of the Weekeepemee River was a key recommendation made in the Watershed Based Plan (WBP). Implementing an ambient water quality monitoring program was also a high priority, near term recommendation in the WBP. Additional monitoring data would help evaluate the extent of the existing impairments, particularly for the Weekeepemee where a 9.61 mile stretch of the river (the full length of the main stem) is listed as impaired for recreational use. Pairing the findings from these two assessment methods would help track down and bracket potential pollutant sources and also determine if high bacteria counts are present across the full length of the river and/or if the counts vary in different weather conditions.

This memorandum describes the field assessment methods and findings for the visual field investigation completed by PRWC over the full length of the Weekeepemee River in Summer 2021. This assessment was part of the Watershed Based Plan Implementation Groundwork Project funded in part by the Connecticut Department of Energy and Environmental Protection through a United States Environmental Protection Agency Clean Water Act Section 319 Nonpoint Source Grant.

METHODS

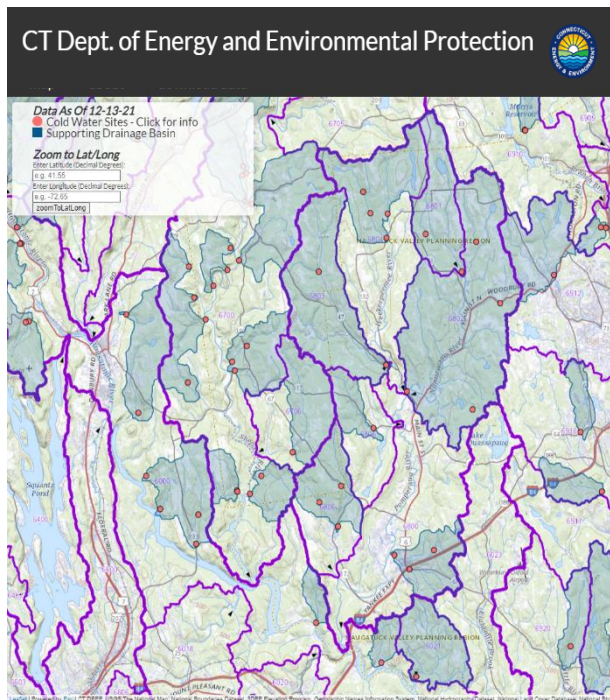
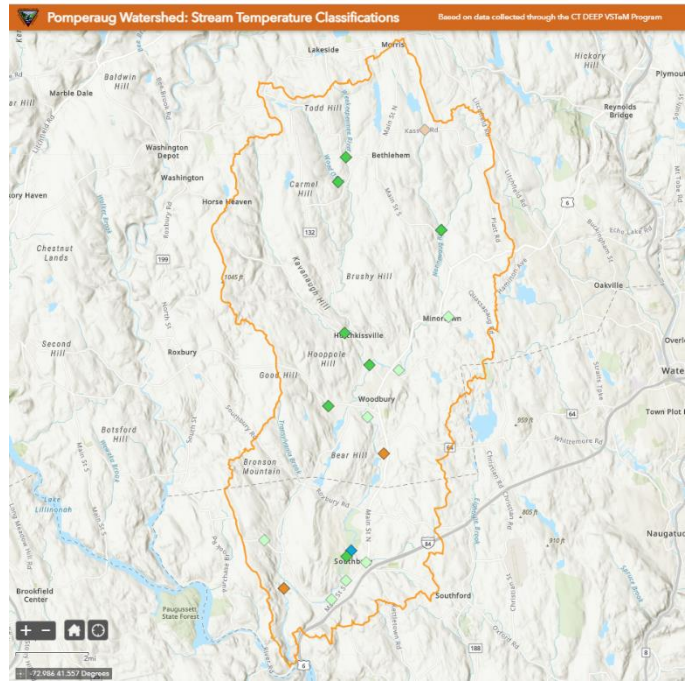
The impaired length of the Weekeepemee River was the focus area for visual field investigations during Summer 2021. Full methods for the visual assessments are detailed and documented in the Quality Assurance Project Plan (QAPP) approved May 27, 2021, modified March 2022 that supports this Section 319 Nonpoint Source Grant-funded project (**Appendix A**).

In 2018, portions of the Weekeepemee River subregional watershed were evaluated by Fuzz & O'Neill, an environmental consulting team hired by Pomperaug River Watershed Coalition (PRWC) to help develop an updated Pomperaug Watershed Based Plan (WBP). When the WBP was prepared, areas of concern (i.e. potential pollutant sources contributing to water

TECHNICAL MEMO - Weekeepemee River Streamwalk Assessment Survey Page 1 of 16

Stream Temperature Monitoring Summary (2012-2023)

Since 2012, PRWC has deployed a network of stream temperature data loggers that are programmed to record water temperature every hour starting June 1 and through at least August 31. PRWC adheres to data quality protocols established by CT DEEP for their Volunteer Stream Temperature Monitoring Program (VSTeM). PRWC's network of sites monitored has ranged from as many as 13 sites (2014) to as few as 5 sites (2021) depending on equipment availability. Thanks to an equipment loan from CT DEEP, PRWC was able to expand the number of sites monitored in 2022 up to 10 locations, though a few data loggers were lost during the monitoring season. With grant support from Woodbury Junior Women's Club, PRWC was able to purchase 5 new data loggers, placed a total of 11 loggers throughout the watershed in 2023, and retrieved 7 loggers at the end of the field season. Heavy rainfall and repeated flooding in 2023 displaced 4 loggers, which still have not been located. Seasonal data is still being analyzed for the 2023 field season and will be added to the map once analysis is complete.



Several sites now have 10 years of seasonal data, which creates a solid baseline record of conditions and trend analysis can begin. Regardless of data set size, each site is evaluated on a seasonal basis to classify the thermal regime of the stream as Cold, Cool, or Warm in relation to habitat type and the type of fish community that can be supported. This is an important metric when it comes to protection of species like brook trout that rely on cold water habitat as well as supporting recreation fishing for species like small and largemouth bass that thrive in warm water habitats. As cold water habitats have been predicted to occur in the headwater tributaries of the Pomperaug Watershed (CT DEEP), PRWC is making an effort to include these streams in its monitoring so there will be data that may serve as the basis for future protections. PRWC's stream temperature monitoring sites and summary data can be explored at <https://www.pomperaug.org/streamtemperature>. Raw data can be downloaded from the EcoSHEDS (Spatial Hydro-Ecological Data Systems) portal hosted by the U.S. Geological Survey - <http://db.ecosheds.org/viewer>.

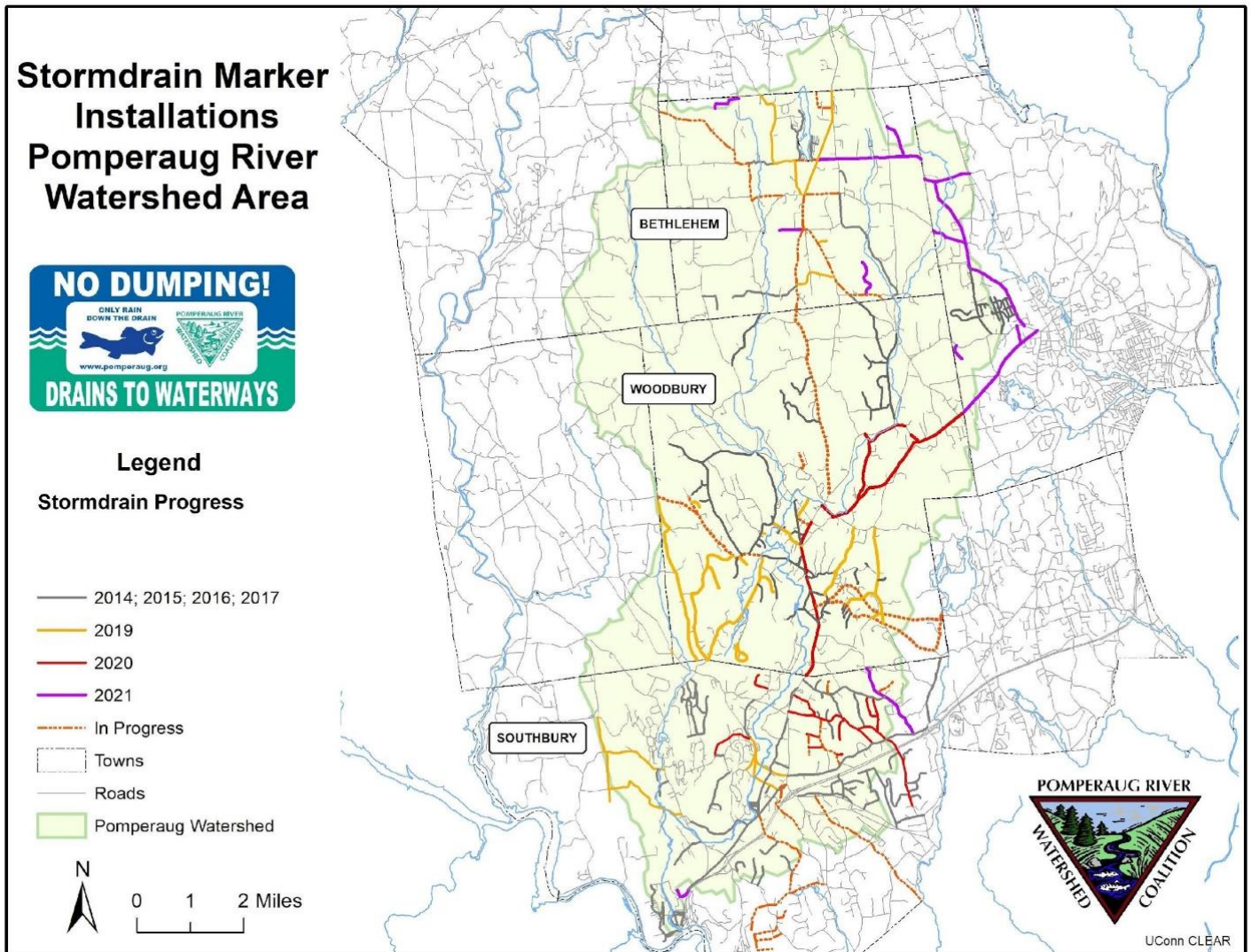
Storm Drain Marker Project Summary

Approximately **3,320** Storm Drain Markers have been installed throughout the Pomperaug River Watershed towns since 2014.

Reminders: Drain Marker Inventory Depleted in 2017; Drain Marker Inventory Replenished in 2019; Drain Marker Inventory Depleted in 2021.

** = Replacement Storm Drain Markers Added.

Storm drains are the openings you see along curbs and in streets and parking lots. They collect stormwater and transport it through a system of pipes to nearby ponds, lakes and streams, and ultimately to Long Island Sound. Storm drains do not lead to a treatment facility. Anything that goes into a storm drain eventually ends up in our waters. The storm drain markers provide a gentle prompt to not dump anything down the drain and that only rain should go down the drain because of the connection to nearby rivers and streams.



Town (Approx. Marker Count)	Year	List of Roads / Locations		
Woodbury (~847 Markers)	2020 (200)	Minortown Rd Mill Rd	Main St N Main St S	Middle Road Turnpike
	2019 (192)	Grassy Hill Rd Woodlake Entrance Bacon Pond Rd Bear Run Trolley Bed Rd Linden Rd Old Sherman Hill Rd** Whittlesey Rd (<i>partial</i>)	Upper Grassy Hill Rd Tuttle Rd Park Rd River Bend Dr Saxony Ln Meadowbrook Ln Sherman Hill Rd (<i>partial</i>) Church Street	Transylvania Rd Sage Rd Judson Ave Owl Ridge Rd Cam Ave Arrowhead Way (<i>partial</i>) Good Hill Rd (<i>partial</i>) Flanders Rd (<i>partial</i>)
	2017	White Deer Rocks Rd. Sage Rd Terrell Rd Joshua Hill Rd Crane Rd Barbara Ln Park Rd Rail Tree Hill Rd	Hollow Rd** Streamside Ave Westside Rd Fairgrounds Rd Westwood Rd Stone Pit Rd Hoop Pole Hill Rd	Fieldstone Rd Essex Ln Inwood Ln Good Hill Rd Meadowbrook Ln Old Grassy Hill Rd Grassy Hill Rd
	2016	Old Sherman Hill Rd		
	2015	Alder Ct Bacon Pond Rd Barn Hill Rd Barnhill Rd Beechwood Ct Cedar Spring Ln Church St Clubhouse Dr Deer Hill Ct Edgehill Ct Fox Run Great Hollow Rd Grey Fox Trl Hesseky Meadow Rd	Hilltop Dr Hollow Rd Ironwood Ln Juniper Ct Lower Commons Maple Hill Ln Meadow Crest Dr N Gate Rd No Meadows Old Town Farm Rd Oreanug Ave Plumb Brook Rd Racoon Ridge	S Meadows School St Shagbark Ln Silver Brook Ln Summit Ct Sycamore Ave Tamarack Ln Timber Ln Transylvania Rd Upper Cmns Washington Ave Woodlake Rd Woods Way
	2014	Coach Light Dr Gate Post Ln Hillview Ln Hyland Ave Meadow Ave Middle Quarter Rd	Old Fair Grounds Rd Old Sherman Hill Rd Orchard Ave Orchard Ln Orton Ln	Pomperaug Rd River View Ln S Pomperaug Ave Sherman Heights Rd Weekepeemee Rd

Town (Approx. Marker Count)	Year	List of Roads / Locations		
Southbury (~1248 Markers)	2021 (11)	Reservoir Rd	Russian Village	
	2020 (400)	Hinman Ln Ivy Hills Rd Old Highway Rd Sunset Ridge Rd	Grasslands Rd Wood Lot Rd New Wheeler Rd	Short Rock Rd Dublin Hill Rd Bucks Hill Rd
	2019 (137)	Heritage Rd Poverty Rd Jeremy Swamp Rd (<i>partial</i>)	Hillhouse Rd Peach Orchard Rd Peter Rd (<i>partial</i>)	Spruce Brook Rd E Flat Hill Rd
	2017	Glen Ln Sunburst Dr Settlers Hill Rd Lumlot Rd Chestnut Tree Hill South Ridge Rd Cedar Grove Rd	Skyview Dr Horizon Hill Hill Crest Dr Beecher Dr Woodland Hills Rd Ivy Hills Rd	Homestead Rd Railstone Dr Overton Farm Rd Luther Rd Forest Rd Bagley Rd
	2016	Main Street South (<i>partial</i>) Heritage Rd	North Poverty Rd Flood Bridge Rd	Old Field Rd**
	2015	Eagle View Rd Grey Rock Rd	Little Fox Ln Sleepy Hill Rd	Valley Stream Ln
	2014	Bagley Rd Berkshire Rd Carriage Dr Cedar Trl Charter Oak Rd Coachmans Dr Colonial Dr Community House Rd Coughlin Dr E Hill Rd Fawn Ridge Ct Forest Rd Fox Run Dr Gate Post Ln Hicock Dr Hillside Rd Old Waterbury Rd	Horse Fence Hill Rd Housatonic Trl Judd Rd Lantern Park Ln N Lantern Park Ln S Luther Dr Manor Rd Mansion House Rd Meadow Brook Rd Midland Trl Munn Rd Northern Trl Oak Tree Rd Oakdale Dr Old Field Rd Old Poverty Rd	Painter Rd Pascoe Dr Patriot Rd Patriot Rd Peck Ln Pepper Tree Hill Ln Pine Hill Rd Pomperaug Trl Poplar Dr Poverty Rd Poverty Rd River Trl Spring Trl Sylvan Crest Rd White Birch Ln Wolfpit Dr

Town (Approx. Marker Count)	Year	List of Roads / Locations		
Bethlehem (~236 Markers)	2021 (60)	Kasson Rd Auncient Oak	Deerwood Dr Thomson Rd	Cabbage Ln
	2019 (141)	Main Street N Sunset Rd	Munger Ln Main Street S (<i>partial</i>)	Robert Leather Rd Flanders Rd (<i>partial</i>)
	2016	Nonnewaug Rd		
	2015	Double Hill Rd	Kasson Ave	Orchard Ave
	2014	Crane Hollow Rd Lake Ave	Lake Dr	Long Horizon Rd
Watertown (~371 Markers)	2021 (89)	Judd Farm Rd Guernseytown Rd	Wolf Hill Rd Skilton Rd	Hamilton Ln Hamilton Ave
	2015	Balmoral Dr Dunrobin Ln Eastwood Hall Rd Guernseytown Rd Inverary Dr Stonehenge Pl	Kent Ter Malvern Hill Rd Neill Dr Pepperidge Tree Rd Platt Rd	Stoneleigh Rd Warwick Rd Westgate Rd Whispering Hill Rd Winding Brook Farm Rd



PRWC Summer Interns installing storm drain markers through the Pomperaug Watershed