MS4 General Permit
Town of Southbury 2020 Annual Report
Existing MS4 Permittee
Permit Number GSM 00028
January 1, 2020 – December 31, 2020

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, 2020 to December 31, 2020.

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (See Below and PRWC Outreach Log CY 2020)

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	On-going	2,250 attendees at the Farmers' Market approximately
1-2 Address education/ outreach for pollutants of concern*	Ongoing	Storm Drain Markers (PWRC)	Raise Public Awareness	Land Use Office / Department of Public Works	2/15/19	On-going	19 new drains for a total of 800

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

Continued coordination with the Pomperaug River Watershed Coalition – see attached PRWC Outreach Log 2020.

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 (Appendix A)	Reference Appendix A	E.Coli;	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 webiste
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

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	N/A
2-2 Comply with public notice requirements for Annual Reports	Ongoing	See report	See final report	Land Use Dept.	2/15/2019	8/1/2021	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 BMP's whenever possible.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan to public	3/31/2017	3/31/2017	www.southbury-ct.org
Availability of Annual Report announced to public	2/15/2021	2/15/2021	www.southbury-ct.org & First Selectman's Office

3. Illicit Discharge Detection and Elimination

3.1 BMP Summary

BMP	*Status*	*Activities in current reporting period*	*Measurable goal*	*Department / Person Responsible*	*Due*	*Date completed or projected completion date*	*Additional details*
3-1 Develop written IDDE program	Completed	IDDE plan for the town is developed. A review was conducted in this report for compliance.	Continue to implement the IDDE plan	Public Works / Land Use Dept.	Jul 1, 2018	Feb. 2020	None
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Ongoing	Attribute table added to GIS database detailing location of outfalls as a separate layer.	Completed list of outfalls on the GIS database , allowing for tracking	Public Works	Jul 1, 2019	June 30, 2019	All 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 I-works Database.	Public Works	Jul 1, 2017	Feb. 2017	None
3-4 Establish legal authority to prohibit illicit discharges	In progress	Ordinance for the creation of the Water Pollution Control Authority was researched; Chap. 18 - 61 thru 64.	Amend the ordinance to adopt an enforcement arm of the WPCA	Soil and Erosion Control Officer/ In-Land Wetlands	Jul 1, 2018	Seeking legal Counsel	Compared the current town ordinance to the template provided by CLEAR. Town is researching if the WPCA only has authority in the APA zones.
3-5 Develop record keeping system for IDDE tracking	Complete	None	Maintained recorded	Public Works Tracks in IWORQ for the Legal Authority	Jul 1, 2017	Feb. 2017	None
3-6 Address IDDE in areas with pollutants of concern	Ongoing	None	Maintained record	Soil and Erosion Control Officer/ In-Land Wetlands	Not specified	Not specified	None

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 day for regional and town collection to reduce illegal discharge into watershed. Use of I-Works tracks reports made by concerned citizens.

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

Date of Report	**Location / suspected source**	**Response taken**
Nov 24, 2020	455 Community House Rd	Soapy Water – Investigated - no signs of soap

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 Neighboor	None Found	UNK	Investigate and Found not to be an Illicite 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 to report their concerns. PW coordinates with the Soil and Erosion Control Officer/ In-Land Wetlands Officer. A spreadsheet of the report log is maintained on the IWORQs database.

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 known at this time.	Town will confer with Pomperaug Health District.	

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	475
Estimated or actual number of interconnections	225
Outfall mapping complete	40 %
Interconnection mapping complete	15 %
System-wide mapping complete (detailed MS4 infrastructure)	40 %
Outfall assessment and priority ranking	10%
Dry weather screening of all High and Low priority outfalls complete	0
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).

A multi-faceted training program was initiated for appropriate Town personnel.
Several Employees from Public works began training in 2016.

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	Active	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 Deptartment	July 1, 2019	Inland Wetlands Commission approved Regulation update in January 2020.	Sediment Erosion Control Ordinance references the "1985 manual, as amended." Department is to reference legal for an opinion on updating the ordinance.
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Active	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	Implemented	
4-3 Review site plans for stormwater quality concerns	Active	Multiple commercial development projects, new houses, and other various building projects were reviewed for compliance.	All reviewed plans were either already compliant or brought into compliance after review.	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	Active	Site insections 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	Active	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.	Constant innovating for avenues to have the public submit comment for the record on development projects.
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Active	A seven house, cluster subdivision, on 18.46 acres with 5.787 acres of deeded open spaces was approved. It will be completed in phases.	Permit language	Land Use Department	July 1, 2017	Ongoing standard operating procedure.	Review all pertinent regulatory material to determine additional requirements prior to issuance of permit.

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

Continue the following practices:

- Utilize I-Works system for citizen feedback and reporting of land disturbance activities and illicit discharge.
- Site plan reviews
- Site inspections
- Implementation of 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	Pending	Requests contractors to explore alternate designs to incorporate LID designs.	Planning requirements in the Zoning Regulation.	Land Use Department	Jul 1, 2021	Projected 2022	Pending Zoning Regulation update.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Pending	Encourage roof leader drains for new construction single family dwellings placed in infiltrators.	Verifiable during site plan review.	Land Use Department	Jul 1, 2019	Ongoing standard operating procedure.	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	In Progress	Retention and detention ponds are being mapped and a maintenance schedule created.	Create maps and associated status spreadsheet.	Public Works Department	Jul 1, 2019	Projected 2022	
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In progress	Catch basins are digitized on a GIS map viewer. Detention basins will be placed on a rotation of service.	Service log for detention basins.	Public Works	Jul 1, 2019	Jul 2019	List of town owned Detention basins updated and sent to Public Works Department by the Inland Wetlands Department.
5-5 DCIA mapping	In progress	DCIA method of calculation is choose to be conservation method recommended by CLEAR.	Excel Spreadsheet Calculated percentage	Land use Department	Jul 1, 2020	Projected 2022	Planometrics were updated by an outside consultant and are under review by land use staff.
5-6 Address post-construction issues in areas with pollutants of concern	Ongoing	Identify erosion and sediment problems in impaired waters. Develop and implement short and long term maintenance solutions to the	As issues arise on publicly owned property, work is done inhouse to correct the issue to the extent practicable.	Public: Land Use Department Private: Engineering firm	Not specified	Ongoing standard operating procedure.	

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		problem as funding is available, or use legal authority to hold property owners accountable. Update annual report with identification of problem areas, the cost of the retrofit, and the anticipated pollutant reduction.	Otherwise, it can be incorporated into a list of projects. On privately owned land, typically a wetlands violation notice will be issued.				
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 and replaced if needed. This landscaping plan is not only aesthetically pleasing, it is also important for evapotranspiration.	Continue to maintain Southbury's Streetscape. Maintain the Town's status as a "Tree City".	Land Use Department / Public Works Department	Not specified	Ongoing standard operating procedure	
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.

1. Continue to encourage and enforce LID site development practices.
2. Identify public and private retention / detention basins in priority areas.
3. Prepare draft condition allowing town access to new retention / detention basins. Continue requirements for access easements in subdivisions.
4. Continue to address post-construction sediment and erosion control issues as they occur.
5. Continue to encourage preservation and enhancement of natural buffers.
6. Continue to require consistency with the 2004 Stormwater Quality Manual.
7. Continue interdepartment coordination in application reviews.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	7.79 acres
DCIA disconnected (redevelopment plus retrofits)	TBD
Retrofits completed	0
DCIA disconnected	0 % this year / 0 % total since 2012
Estimated cost of retrofits	Self performed by the Public Works Department
Detention or retention ponds identified	0 this year/27 total

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

The Town utilized tools available through the NEMO program and data collected by state agencies to assume impervious cover. Data from a 2012 study shown on the MS4 map viewer (http://nemo.uconn.edu/ms4/tools/ms4map.html) was utilized for a baseline. The accuracy to establish this baseline has likely lead to an overestimate. The town feels that it is a conservative approach to setting a baseline for reduction. Overestimating a cover amount for 2012 would likely account for the new development areas currently existing in 2018. A new planometric study was performed in 2018. The Town plans to utilize that information to further define an accurate estimate of Impervious cover for the existing conditions in 2016 (date of aerial image utilized to create layer).

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	None	Attendance Records	Public Works	Jul 1, 2017	Ongoing Standard Operating Procedure	
6-2 Implement MS4 property and operations maintenance	In Progress	None	Report form director	Public Works Director	Jul 1, 2018	Ongoing standard operating procedure	
6-3 Implement coordination with interconnected MS4s	In progress	None	Meeting with Connecticut Water, sewage division scheduled and minutes recorded.	Public Works Director	Not specified	Not specified	
6-4 Develop/implement program to control other sources of pollutants to the MS4	Pending	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. Compare locations of those identified and screening and monitoring results to determine if further investigation is needed.	Public Works Department / Engineering firm	Not specified	Projected December, 2022	

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-5 Evaluate additional measures for discharges to impaired waters*	See BPM 6-10, 6-11, 6-12,6-13						
6-6 Track projects that disconnect DCIA	In progress	Review of previous projects within Town dating back to July of 2012. The Town did not identify any significant disconnect projects in the past five (5) years.	Create a spreadsheet to track disconnected DCIA acreage.	Land Use Department / Public Works Department	Jul 1, 2017	In progress	
6-7 Implement infrastructure repair/rehab program	In progress	Several sites submitted by Southbury Landtrust	Spreadsheet and repair schedule	Public Works Department	Jul 1, 2021	In progress	
6-8 Develop/implement plan to identify/prioritize retrofit projects	Complete	Implement plans based on data from pervious MS4 permit. The work conducted under the the previous MS4 permit did not indicate any problems with the Town's MS4 infrastructure that required retrofit.	Identify required repairs based on data from previous permit. Make repairs as funding becomes available.	Public Works Department	Jul 1, 2020	Completed July 1, 2017	
6-9 Implement retrofit projects to disconnect 2% of DCIA	On going	The Town has not identified any projects for the disconnect of impervious surface.	Disconnect 2% of the Town's DCIA	Public Works Department	Jul 1, 2022	None	
6-10 Develop/implement street sweeping program	On going	The Town sweeps all its streets twice a year, and additional areas on an as needed basis.	Spreadsheet	Public Works Department	Jul 1, 2017	None	

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-11 Develop/implement catch basin cleaning program	On going	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	On going	None	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)	On going	Collect information on eroding areas in ROW from highway maintenance personnel over course of normal operations.	Identify areas contributing large volumes of sediment to Town waterbodies.	Public Works Department		Ongoing standard operating procedure	Reason for addition: to reduce sedimentation of waterways near Town ROWs.

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

- Annual recycling days sponsored by the Town Public Works Department will be held in the spring and fall of 2021.
- Mattress return, hazard household waste return, and battery return day at the Town's transfer station to be scheduled.
- Continue employee training programs.
- Continue street sweeping programs.
- Continue catch basin maintenance and inspections.
- Continue to support local as well as regional hazardous waste collection days.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes
Street sweeping	
Curb miles swept	378 miles
Volume (or mass) of material collected	175 CY
Catch basin cleaning	
Total catch basins in priority areas	Unknown
Total catch basins in MS4	5473
Catch basins inspected	514
Catch basins cleaned	409
Volume (or mass) of material removed from all catch basins	438 CY
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	3,830 Tons
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 Nov. 19, 2019
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 the free board within the catch basin is filled, 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.
To be determined

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

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

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.
1. Fuss & O'Neil has been contracted to perform sampling and assist in monitoring.

2. Screening data for outfalls to impaired waterbodies (Fuss and O'neill Reports)

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?**
-	-	-	-	-	-

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?**

3. Follow-up investigations (Fuss and O'neill Reports)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
-	-	-

4. Prioritized outfall monitoring (Fuss and O'neill Reports)

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)

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 (Fuss and O'neill Reports)

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
-	-	-	-	-	-	-	-	-	-	-

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
-									

3. Catchment Investigation data (Fuss and O'neill Reports)

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
-		

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 that 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 that 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
-	-	-	-	-	-

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
-	-	-	-	-
-	-	-	-	-

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
-	-	-					
-	-	-					

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:	Print name:
Signature / Date:	Signature / Date:

Stormdrain Marker Installations Pomperaug River Watershed Area

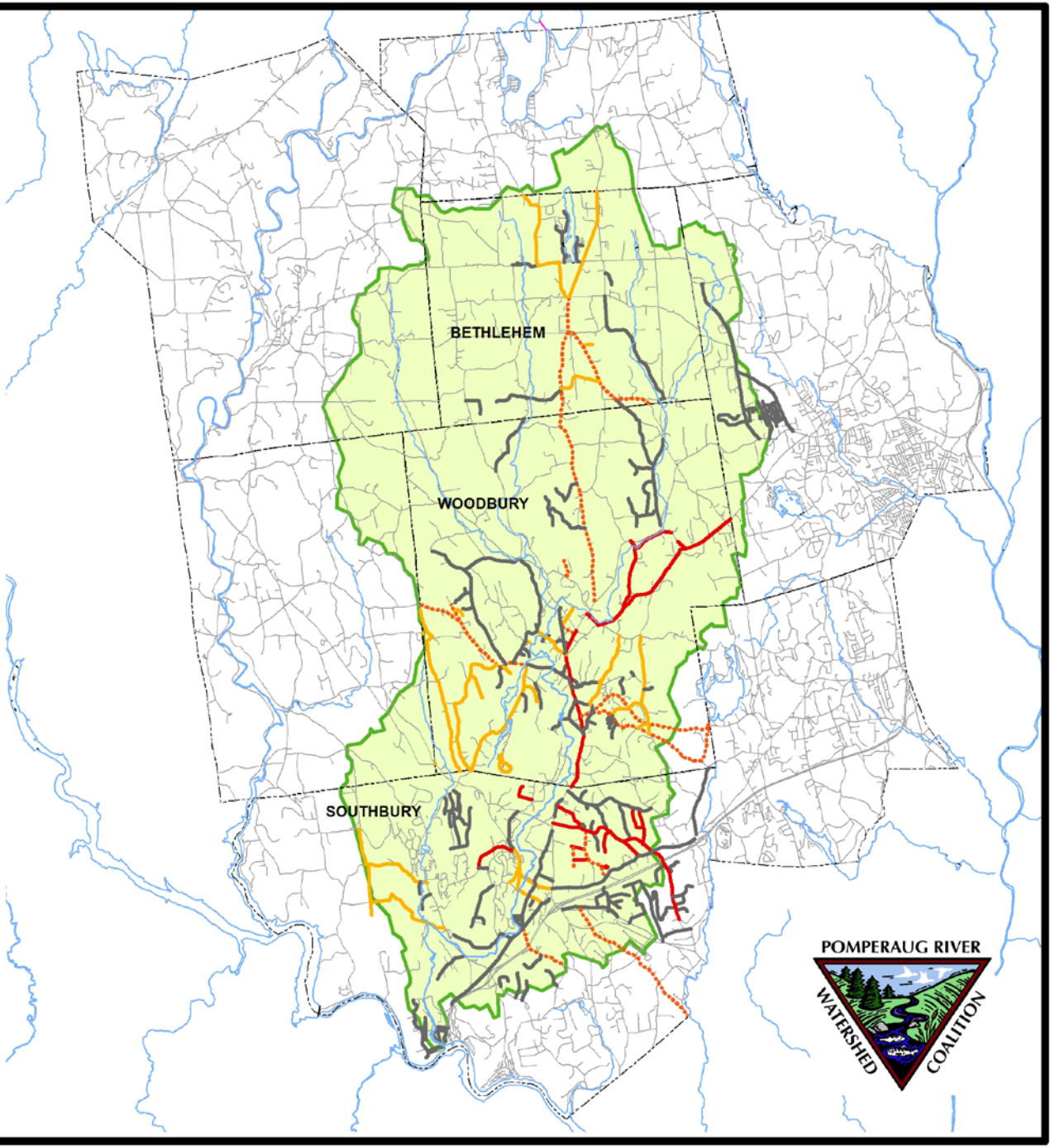
Legend

Stormdrain Progress

- 2014; 2015; 2016; 2017
- 2019
- 2020
- In Progress
- Roads
- Towns
- Pomperaug Watershed

N

0 0.5 1 2 3 4 Miles



STORMDRAIN MARKER PROJECT

Approximately 3320 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

*** = Replacement Stormdrain Markers Added*

Town *(Approx. Marker Count)*	**Year**	**List of Roads / Locations**		
Bethlehem *(~176 Markers)*	2019 (141)	Main Street N Sunset Rd	Munger Ln Main Street S (*partial*)	Robert Leather Rd Flanders Rd (*partial*)
	2016	Nonnewaug Rd		
	2015	Double Hill Rd	Kasson Ave	Orchard Ave
	2014	Crane Hollow Rd Lake Ave	Lake Dr	Long Horizon Rd
Watertown *(~340 Markers)*	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

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 (*partial*)	Upper Grassy Hill Rd Tuttle Rd Park Rd River Bend Dr Saxony Ln Meadowbrook Ln Sherman Hill Rd (*partial*) Church Street	Transylvania Rd Sage Rd Judson Ave Owl Ridge Rd Cam Ave Arrowhead Way (*partial*) Good Hill Rd (*partial*) Flanders Rd (*partial*)
	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		

Woodbury	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 Orenaug 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 Weekeepeemee Rd

Town *(Approx. Marker Count)*	Year	List of Roads / Locations		
Southbury *(~1237 Markers)*	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 (*partial*)	Hillhouse Rd Peach Orchard Rd Peter Rd (*partial)*	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 *(partial)* 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

Southbury	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 Dr White Birch Ln Wolfpit Dr

PRWC Outreach Log 2020 (Calendar Year)

SUMMARY

Total Number of Outreach Programs & Water Resource Planning Meetings: 50

(does not include mass media hits)

Number of Program & Meeting Attendees: 935

(does not include mass media)

Additional Number Reached through Mass Media Outreach: 122,467

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

Date	Topic / Program Title	Venue	Audience	# of Attendees / Viewers	# of Programs
January 8, 2020	Public Comments Presented on Woodbury Plan of Conservation and Development	Woodbury Planning Commission Special Meeting	Planning Commission and Woodbury Residents	15	1
January 18, 2020	Case Study in Resource Management: Pomperaug Low Flow Operations Plan	Connecticut EnviroThon Aquatics Workshop Connecticut River Academy	High School Students	40	2
February 19, 2020	Nonnewaug High School Vo-Ag Program Fair Outreach Booth	Nonnewaug High School, Region 14	High School Students	30	1
April 1, 2020	Water Wednesday: "Wonders of the Pond"	Facebook Live	Watershed Families	15	1
April 8, 2020	Water Wednesday: "Water Dance"	Facebook Live	Watershed Families	16	1
April 14, 2020	Water Watchers Webinar	Zoom - Online	Watershed Residents	18	1
April 15, 2020	Water Wednesday: "The Salamander Room"	Facebook Live	Watershed Families	267	1
April 22, 2020	Water Wednesday: "The Little Raindrop"	Facebook	Watershed Families	3	1
April 29, 2020	Water Wednesday: "Where the River Begins"	Facebook Live	Watershed Families	60	1
April 30, 2020	DIY Underwater Viewer	Facebook	Watershed Families	251	1
June 6, 2020	CT Trails Day, Overlook and River Trail Hike	Audubon Bent of the River, Southbury	Watershed Families	Self-Guided	1
July 9, 2020	Watershed Connections Presentation Flanders Wetlands Academy	Flanders Nature Center & Land Trust, Woodbury	Flanders Summer Campers	4	1

Date	Topic / Program Title	Venue	Audience	# of Attendees / Viewers	# of Programs
June 30 – July 30, 2020	Watershed Overview	Woodbury Public Library Community Display Case	Woodbury Residents	unknown	1
September 26, 2020	Watershed Video Tour	Zoom - Online	Watershed Residents	60	1
October 3, 2020	O&G Quarry Geology Tour with Flanders	O&G Industries, Southbury Quarry	Watershed Community	50	2
October 7, 2020	Watershed Video Tour	Zoom - Online	Naugatuck Pomperaug Trout Unlimited	8	1
October 14 & 22, 2020	Macroinvertebrate Survey Training	Zoom	Survey Volunteers	10	2
October 17, 2020	Annual Macroinvertebrate Survey	Eight Mile Brook, Oxford Bullet Hill Brook, Southbury Transylvania Brook, Southbury	Watershed Residents/ Volunteers	7	3
October 24, 2020	Annual Macroinvertebrate Survey	East Spring Brook, Bethlehem Carmel Hill Brook, Woodbury Sprain Brook, Woodbury	Watershed Residents/ Volunteers	5	3
December 9, 2020	PRWC Advisory Council Meeting	Zoom - Online	PRWC Advisory Council		1

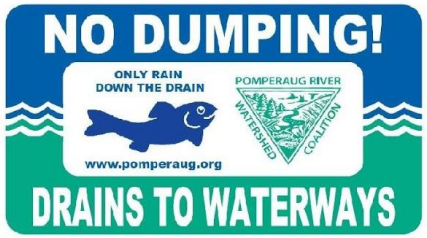
Date	Topic / Program Title	Venue	Audience	# of Attendees	# of Programs
Various Dates (Monthly)	Water Planning Council Advisory Group (WPCAG)	PURA Offices, New Britain & Zoom Conference Calls	WPCAG Members & Public	25	8
Various Dates	DEEP Environmental Advocates Meetings	DEEP Hartford & Conference Calls	Environmental Advocates Group Members	20	4
Various Dates (Monthly)	Water Planning Council (WPC)	PURA Offices, New Britain	Council Members, Subcommittee Members & Consultants	25	8
Various Dates	Watershed Based Plan Implementation Projects Planning Meetings	Various	PRWC Staff, Project Partners including private landowners, and municipal representatives of Woodbury, Southbury, and Bethlehem		
Various Dates	Woodbury Stormwater Management Committee Mtgs / Sustainable CT Meetings	Town of Woodbury	Committee Meetings	2	2
Various Dates	LID and Engineering Class Service Learning Project	The Frederick Gunn School, Washington, CT	High School Students	4	1

PRWC Outreach through Mass Media

Date	Activity	Audience	# Reached
Ongoing	PRWC Website (www.pomperaug.org)	Watershed Residents and beyond	4,526 unique users between 1/1/20 and 12/31/20 *(up by 1.5% since 2019)*
Ongoing	RiverSmart Website (www.riversmartct.org)	Watershed Residents and beyond	458 unique users between 1/1/20 and 12/31/20
Ongoing	Earth Day Website (www.woodburyearthday.org)	Watershed Residents and beyond	759 unique users between 1/1/20 and 12/31/20
Ongoing	YouTube Watershed Video Tour and Aquarion Environmental Champion Award	Watershed Residents and beyond	207 as of 1/7/2021
Fall/ Winter	PRWC Newsletter*	Watershed Residents and beyond	~950 each issue
Ongoing	PRWC Facebook Page	Watershed Residents and beyond	1026 Page Likes as of 1/7/21 *(up by 95 since 12/31/19)* 1,183 page followers as of 1/7/21 MAX Daily Total Reach: 1,412 unique users
Ongoing	PRWC Instagram Page	Watershed Residents and beyond	646 followers as of 1/7/21 *(up by 386 since 12/31/19)*
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	Stormdrain Markers	Watershed Residents	30,000
Ongoing	Educational Interpretive Signage at Cedarland Park & Community House Park, Southbury	Watershed Residents	Unknown
Ongoing	Informational Brochures, Newsletters, etc. at Public Libraries, Town Hall Offices, and locally owned grocery stores	Watershed Residents and beyond	Unknown
July 9, 2019 August 15, 2019 September 26, 2019	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

***** May be overlap in persons reached.***

Stormdrain Marker Installations Pomperaug River Watershed Area



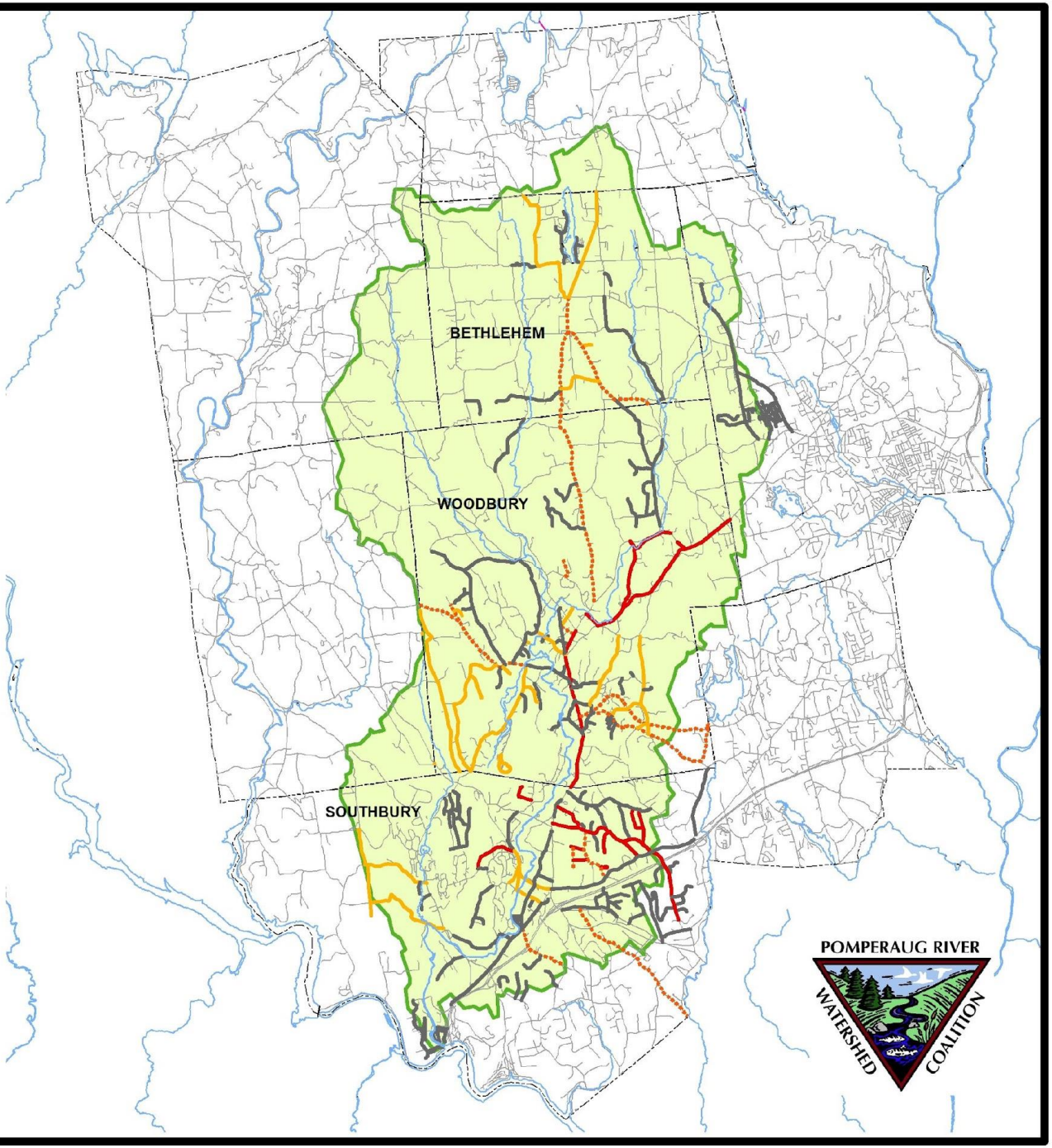
Legend

Stormdrain Progress

- 2014; 2015; 2016; 2017
- 2019
- 2020
- In Progress
- Roads
- Towns
- Pomperaug Watershed

N

0 0.5 1 2 3 4 Miles



STORMDRAIN MARKER PROJECT

Approximately 3320 Storm Drain Markers have been installed throughout the Pomperaug River Watershed towns since 2014.

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.

Reminders

Drain Marker Inventory Depleted in 2017; Drain Marker Inventory Replenished in 2019

*** = Replacement Stormdrain Markers Added*

Town *(Approx. Marker Count)*	**Year**	**List of Roads / Locations**		
Bethlehem *(~176 Markers)*	2019 (141)	Main Street N Sunset Rd	Munger Ln Main Street S (*partial*)	Robert Leather Rd Flanders Rd (*partial*)
	2016	Nonnewaug Rd		
	2015	Double Hill Rd	Kasson Ave	Orchard Ave
	2014	Crane Hollow Rd Lake Ave	Lake Dr	Long Horizon Rd
Watertown *(~340 Markers)*	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

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 (*partial*)	Upper Grassy Hill Rd Tuttle Rd Park Rd River Bend Dr Saxony Ln Meadowbrook Ln Sherman Hill Rd (*partial*) Church Street	Transylvania Rd Sage Rd Judson Ave Owl Ridge Rd Cam Ave Arrowhead Way (*partial*) Good Hill Rd (*partial*) Flanders Rd (*partial*)
	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		

Woodbury	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 Orenaug 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 Weekeepeemee Rd

Town *(Approx. Marker Count)*	Year	List of Roads / Locations		
Southbury *(~1237 Markers)*	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 (*partial*)	Hillhouse Rd Peach Orchard Rd Peter Rd (*partial)*	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 *(partial)* 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

Southbury	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 Dr White Birch Ln Wolfpit Dr

Crew Accomplishments 2020 Field Season

PRWC gainfully employed four Youth Conservation Corps (YCC) staff (2 Dr. Marc Taylor Intern Crew Leaders, and 2 high school student crew members), along with increased hours for PRWC's Outreach Coordinator to provide training, safety protocol supervision, stream assessments quality controls and educational enrichment for a six-week field season. Over the course of their season, the Crew was able to achieve the following quantitative outputs:

- Conducted 22 stream crossing assessments (bridges and culverts) in Woodbury following North Atlantic Aquatic Connectivity Collaborative protocols to evaluate suitability for aquatic life passage. Aquatic life passage barrier ratings and field data for each crossing and can be viewed online at https://naacc.org/naacc_search_crossing.cfm. Crossings along Jacks Bridge Road; Mill Road; Minortown Road Extension; Judson Avenue; Westside Road; Quassapaug Road were assessed.

- Completed 2.62 miles of stream walk survey assessments covering four different stream sections within the watershed:
    - Three Rivers Park Buffer Assessment –
        - Documented buffer condition/erosion and potential planting options every 100 feet along the Pomperaug River
    - Orton Pond Stream Walk/Neighborhood Survey –
        - Investigated the extent of a problematic site along certain section of the Pomperaug at which a long term log jam has diverted water into a private pond leaving the River dry for a stretch
        - Conducted neighborhood survey to see the problem from a different angle
    - Transylvania Brook Stream Walk and Neighborhood Surveys –
        - Identified and GPS located areas of serious erosion along Transylvania Brook
        - Conducted windshield survey of neighborhoods close to the stream with the intent of identifying any potential sources of pollution that may run into the brook
        - Removed 722 water chestnut seeds from the Brook slowing the invasive plant from growing downstream and into Lake Zoar
        - Collected trash

    - Southbury Dog Park Stream Walk –
        - Documented and measured spots along the Pomperaug River channel with serious erosion from dog traffic and identified potential solutions that would reduce erosion such as stone steps and plantings

- Collected four rounds of bacteria, nitrate, and conductivity samples from 13 sites located throughout the watershed providing data on water quality to CT DEEP
    - Created 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.pompearug.org/monitoring
    - Updated the web pages for each sampling site to include a table showing bacteria, nitrate, and conductivity data for each round of sampling.
    - Created tablet based field data collection forms using EpiCollect5 App.

- Planted 48 trees and shrubs (sycamore, silver maple, silky dogwood, and viburnum) at Three Rivers Field in Woodbury and Cedarland Park in Southbury to improve stream buffer; also removed invasive plants (mugwort) to make room for the native species.

- Physically removed 12 cubic yards / half-ton / dump truck load of trash and scrap metal from the following areas:
    - Pomperaug River between Audubon Center at Bent of the River and South Britain Dam in Southbury
    - Transylvania Brook from Spruce Brook Road to East Flat Hill Road in Southbury
    - Former Southbury Town Beach where Pomperaug River flows into Lake Zoar
    - Janie Pierce Park / Transylvania Pond on Southbury – Woodbury townline
    - Trails around Nonnewaug Falls in Woodbury

- Installed more than 500 stormdrain markers along 22 road segments in Woodbury and Southbury; updated GIS map showing the completed roads.

- Conducted thermal spot checks for stream temperature data loggers placed at 10 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.

Pomperaug Youth Conservation Corps positions were funded in part by grant support from Connecticut Community Foundation.

Bacteria Sampling and Thermal Monitoring in Streams

PRWC's bacteria and nitrate monitoring establishes an improved baseline of water quality conditions near sites targeted for the future implementation of best management practices (BMP) identified in the Watershed Based Plan. Nitrogen is an indicator of fertilizer runoff, septic failure, and animal waste and a contaminant of major concern for Long Island Sound. Bacteria are an indicator of general water quality degradation from septic effluent and agricultural runoff, which are the principle sources of contamination in the Pomperaug River. Not only is the data record of bacteria, nitrate and conductivity valuable in identifying problem areas and differentiating sources of contamination, but the assessments training that the YCC receive is such great educational experience.

River Clean-ups and Trash Removal

Physically removed 12 cubic yards / half-ton / dump truck load of trash and scrap metal from:

- Pomperaug River between Audubon Center at Bent of the River and South Britain Dam in Southbury
- Transylvania Brook from Spruce Brook Road to East Flat Hill Road in Southbury
- Former Southbury Town Beach where Pomperaug River flows into Lake Zoar
- Janie Pierce Park / Transylvania Pond in Southbury

Plantings, Buffer Maintenance & Invasive Plant Removal

Planted 30+ trees and shrubs (sycamore, silver maple, silky dogwood, and viburnum) at Cedarland Park in Southbury to improve stream buffer;
removed invasive plants (mugwort) to make room for the native species.

Stream Walk Survey Assessments

Completed 2.62 miles of stream walk survey assessments of four stream sections within the watershed:

- Transylvania Brook Stream Walk and Neighborhood Surveys – Identified areas of serious erosion and potential sources of pollution, removed 722 invasive water chestnut seeds. Collected trash.
- Southbury Dog Park Stream Walk – Documented Pomperaug River channel erosion from dog traffic and identified potential solutions such as stone steps and plantings.

Media Posts and News Article Clips

www.pomperaug.org/news

Pomperaug River Watershed Coalition

HOME ABOUT US SCIENCE EDUCATION OUR WATERSHED EVENTS

Small Crew, Big Year- 2020 Youth Conservation Corps Summer...

Thanks to the Connnecticut Community Foundation and donors like you, PRWC continued its Youth Conservation Corps (YCC) season for...

Pomperaug River Low-Flow Plan Action Level Reached People in the Pomperaug Basin reminded to use wa

SOUTHBURY — River flows in the Pomperaug River have hit the first trigger in the Heritage Village Water Company's low-flow operations pla...

Pomperaug River Watershed Coalition Shares Recent Bacteria Levels on...

Summer months bring outdoor recreation including water-based activities like fishing, boating, and swimming; however, high bacteria...

PRWC has Submitted Comments on DEEP's Integrated Water Quality Report

In response to DEEP's request for public comment on the Integrated Water Quality Report, PRWC has submitted comments on the draft. PRWC ...

Save the Date! Virtual Watershed Tour

We look forward to gathering with our supporters and community to kick off World Rivers Day and celebrate PRWC's 20th Anniversary. We wi...

Pomperaug River Low-Flow Plan Action Level Reached: Voluntary Water Conservation Strongly Urged

June 10, 2020 (top) and August 25, 2020 (below): River flows in the Pomperaug River have hit the third and fina trigger in the low-flow ...

Meet This Year's Dr. Marc Taylor Interns and Youth Conservation Corps!

Join us in welcoming this year's 2020 season of Youth Conservation Corps members. This year we have two Dr. Marc Taylor interns acting as...

Watershed Plan Implementation Begins with Stream Sampling

In the 2019 field season,PRWC launched a new stream sampling program as the first step in implementing the Watershed Based Plan that w...

2020 Stream Assessments

With all of this years adjustments, PRWC's stream assessments are off to a great start. We have had multiple days in the field in the pa...

Your Rivers and COVID-19

At a time in this world when so many things feel different, some things never change. PRWC remains committed to working on behalf of you ...

Get Outside DIY-style for Connecticut Trails Day Weekend June 6-7

For the past several year, PRWC has a led a "river ramble" for Connecticut Trails Day Weekend held annually during the first full weekend...

Drought Recovery- Think Snow!

With persistent hot, dry weather this summer, river flows in the Pomperaug River reached the third and final trigger in the Low-Flow Oper...

Pomperaug River Watershed Coalition Celebrates Drinking Water Week

From cooking, washing, bathing, and drinking, cleanliness and quantity of water is important but not always recognized for its critical r...

DEEP Grant Award Supports Agricultural Outreach and Watershed Plan Implementation

PRWC has received a Clean Water Act Section 319 program grant from CT Department of Energy and Environmental Protection (DEEP) to support...

POMPERAUG RIVER WATERSHED COALITION

Stream Sampling Program Summary for the 2020 Field Season

Table 1 – Overview of Sampling Events. Sample dates, streamflow, and weather conditions for each stream are summarized in this table to help provide context for the sampling results. Air and water temperatures reflect an average of these temperatures as they were recorded at each site visited through the sampling day. There are 3 sites on the Nonnewaug River; 4 sites on the Weekeepeemee; and 6 sites on the Pomperaug.

Date	River	Flow (cfs)	Wet/Dry	Weather	Air Temp (C)	Water Temp (C)
6/10/2020	Nonnewaug	8.25	Dry	Sun with some clouds	30.0	21.7
6/24/2020	Nonnewaug	3.52	Dry	Clouds with some sun, Cloudy	28.4	21.8
7/7/2020	Nonnewaug	3.74	Dry	Cloudy	22.5	20.4
7/21/2020	Nonnewaug	2.57	Dry	Sunny	24.2	21.2
8/5/2020	Nonnewaug	3.98	Wet	Sun with some clouds, Sunny	28.1	21.8
8/18/2020	Nonnewaug	1.4	Wet	Sunny	22.5	19.6
9/2/2020	Nonnewaug	2.41	Wet	Light rain	20.1	18.1
6/10/2020	Weekeepeemee	12	Dry	Sun with some clouds	29.3	20.8
6/24/2020	Weekeepeemee	7.94	Dry	Clouds with some sun, Cloudy	26.9	21.9
7/7/2020	Weekeepeemee	5.88	Dry	Cloudy	22.0	20.4
7/21/2020	Weekeepeemee	5.88	Dry	Sunny	26.1	21.3
8/5/2020	Weekeepeemee	11.5	Wet	Sun with some clouds, Sunny	26.2	21.1
8/18/2020	Weekeepeemee	2.34	Wet	Sunny	20.6	19.5
9/2/2020	Weekeepeemee	4.5	Wet	Light rain	19.6	17.8
6/10/2020	Pomperaug	38.5	Dry	Clouds with some sun	25.9	20.3
6/23/2020	Pomperaug	21	Dry	Sun with some clouds	28.7	23.9
7/7/2020	Pomperaug	27.8	Dry	Cloudy	22.6	22.6
7/21/2020	Pomperaug	19.7	Dry	Sun with some clouds	27.0	24.0
8/5/2020	Pomperaug	44.2	Wet	Cloudy	26.1	22.5
8/18/2020	Pomperaug	10.9	Wet	Sunny	23.2	21.2
9/2/2020	Pomperaug	19.7	Wet	Moderate or steady rain	20.3	19.4

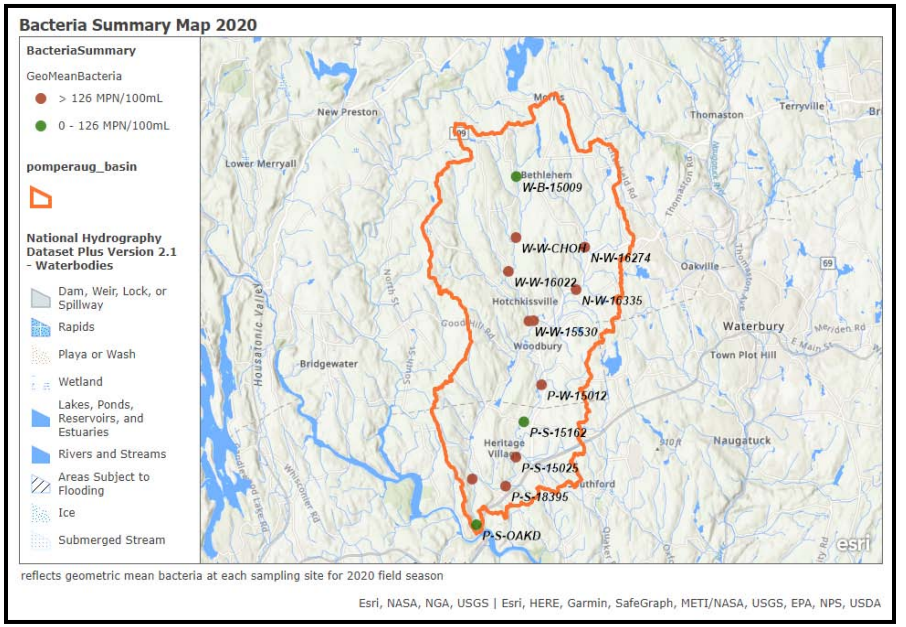
Table 2 - Ambient Stream Monitoring Summary by Site Name in the Pomperaug River Watershed. Samples were collected twice a month in June, July, and August and once in September for a total of 7 sampling events which represent a mix of four dry and three wet weather conditions. Blanks and duplicate samples were also submitted to the lab for quality assurance purposes. Where duplicate samples were collected, the results were averaged to provide a single result for each site for each sample date. These values were used in calculating means and identifying min and max values for the season.

Site Number / Description	Mean Bacteria (MPN/100mL)	Geometric Mean Bacteria* (MPN/100mL)	Max Bacteria* (MPN/100mL)	Min Bacteria (MPN/100mL)	Mean Nitrate (mg/L)	Mean Conductivity (uS/mL)
W-W-15530, Weekeepeemee, Jacks Bridge Rd, Woodbury	579	206	2420	33	0.38	153.0
W-W-16022, Weekeepeemee, Brushy Hill Rd, Woodbury	673	265	2420	59	0.32	181.4
P-S-15025, Pomperaug, Poverty Rd - Ewald Park - USGS Gauge, Southbury	516	261	1986	89	0.79	304.1
N-W-14355, Nonnewaug, Rt 47 Bridge, Woodbury	684	383	2420	89	0.94	196.7
N-W-16274, Nonnewaug, Rt 61 Bridge, Woodbury	695	375	2420	86	0.58	210.9
N-W-16335, Nonnewaug, Mill Rd - USGS Gauge, Woodbury	923	558	2420	152	0.66	189.2
W-W-CHOH, Weekeepeemee, Chohees Trail, Woodbury	714	356	2420	65	0.32	210.5
W-B-15009, Weekeepeemee, Wood Creek Rd, Bethlehem	440	119	2420	26	0.31	197.9
P-S-OAKD, Pomperaug, Oakdale Manor, Southbury	143	100	291	25	0.72	343.7
P-S-15388, Pomperaug, Bent of the River, Southbury	229	176	649	84	0.79	365.3
P-S-18395, Pomperaug, The Gym - Flood Bridge Rd, Southbury	225	169	517	72	0.82	342.0
P-S-15162, Pomperaug, Route 67 - Bennett Park, Southbury	166	111	525	52	0.62	219.7
P-W-15012, Pomperaug, Middle Quarter / S. Pomperaug Ave, Woodbury	218	155	517	52	0.76	211.6

*Shaded cells indicate an exceedance of water quality criteria for safe recreation.

CT DEEP Water Quality Criteria for E. coli for Safe Recreation:

Geometric Mean: 126 colonies/100mL
Single Sample: 410 colonies/100mL



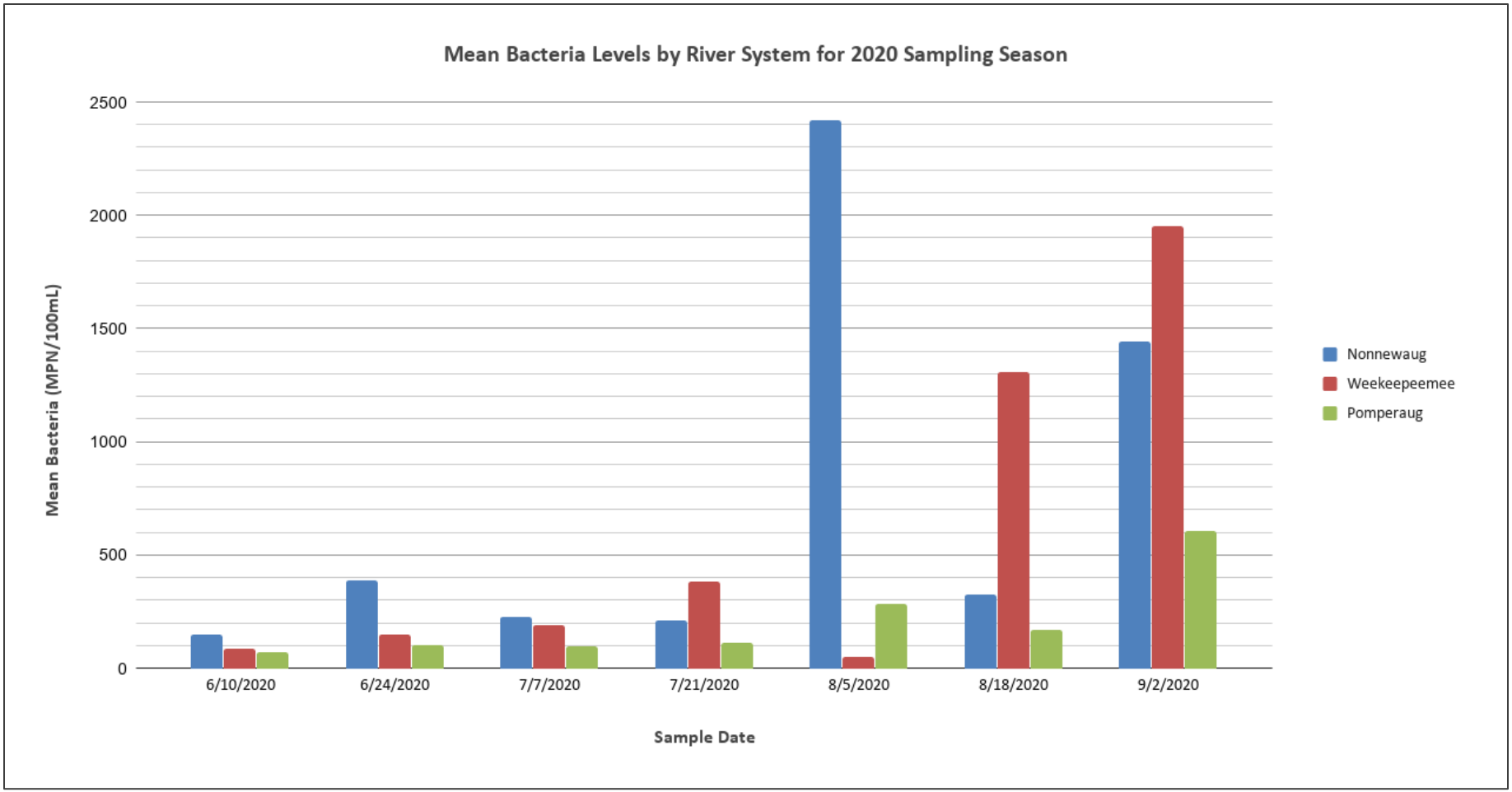


Figure 1 - Mean Bacteria Levels by River System for 2020 Sampling Season. For each sample date, bacteria results from each site within the same main river system – Nonnewaug, Pomperaug, and Weekeepeemee – were averaged to provide an overall look at each river's ability to support recreation. These bacteria results are compared to three different thresholds to determine suitability for recreation. Public swimming areas are deemed safe for swimming when the bacteria value less than 235 MPN/100mL; for wading and fishing bacteria levels should be less than 410 MPN/100mL to support wading while the threshold for safe boating is less than 575 MPN/100mL. This figure shows that the Pomperaug, Nonnewaug, and Weekeepeemee Rivers typically fell below the threshold of 410 MPN/100mL and support safe recreation during dry weather sampling events (6/10; 6/24; 7/7; and 7/21). In general, the bacteria levels rise as a result of rain events as show by the results of the wet weather sampling events on 8/5, 8/18, and 9/2. There are, however, exceptions to this as shown for the Weekeepeemee on 7/21 where there was an inexplicable high bacteria result during dry weather sampling and for the wet weather sampling on 8/5 being the lowest mean value for the Weekeepeemee for 2020 season.

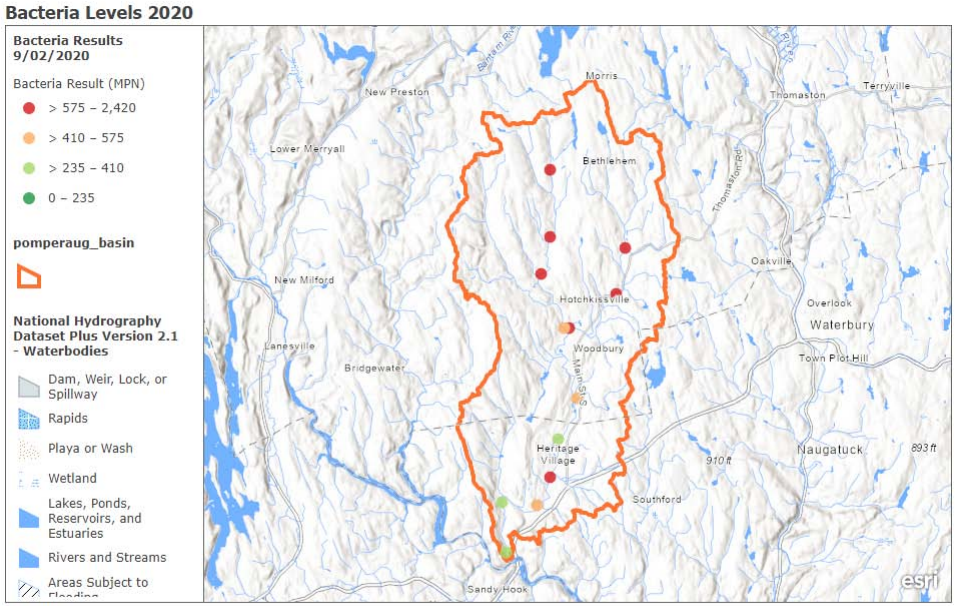


Figure 2a. Results for September 2, 20202. Wet Weather.

Figure 2a-2g. Mapped bacteria results for each sampling event in 2020. The Connecticut DEEP's Water Quality Standards lists *Escherichia coli* (*E. coli*) as the primary sanitary indicator for fresh water with concentration ranges safe for different uses as specified in the legend.

Bacteria Result (MPN)	
> 575 – 2,420	Not safe for recreation
> 410 – 575	Safe for fishing, boating, and other recreation, but not swimming
> 235 – 410	Safe for swimming in non-public swimming areas
0 – 235	Safe for swimming in public swimming area

E. coli, a type of bacteria found abundantly in the gut of mammals including humans, is used as the primary sanitary indicator for fresh water. High bacteria levels can indicate water quality degradation from pollutant sources such as agricultural runoff, septic contamination, and pet waste. E. coli usually poses little concern to humans with the exception of one strain that is capable of causing illness. Prolonged exposure to or swallowing water containing high levels of E. coli can cause mild to severe symptoms that may present in a way similar to a stomach virus, an ear infection or a rash. Typical recovery is expected within a few days to over a week.

The *E. coli* bacteria levels for different types of recreation are determined by the number of Colony Forming Units / 100 ml (CFU/100ml). Results from the water testing lab are reported as Most Probably Number (MPN/100ml).

What were your favorite parts of the Youth Conservation Corps (YCC) program?

"I really enjoyed the stream walk assessments that we did this season. It was really interesting to see the different types of damage in the river such as erosion and log jams and the extent of each. It was also fun to try and figure out what can be done about the issue and how we can boost the health of the river." - Hannah Pryor

"I enjoyed the team. We all became close and enjoyed working together. Performing the stream walks such as trash cleanup and surveying for potential pollution was the most enjoyable, but with the variety of tasks there was never a dull moment." – Naomi Robert

"I enjoyed traveling (mostly driving haha) to parks and locations that I hadn't been to before. I loved meeting new people and becoming closer with the community, especially those involved in the watershed. I especially loved meeting those who work for PRWC, as they are ALL wonderful people that I loved working with, and who I hope to see again in the future :)." – Selana Kurutan

How did the YCC season and projects compare to your expectations?

"This program was so much more than what I expected. I didn't expect the variety of projects we did and the types. All the projects we did were really informative and were a great introduction to the environmental field. I joined this program to see what it was like to work in an environmental job and I really enjoyed it and it strengthened my love for nature." - Hannah Pryor

"I was expecting to do more of the science side of things through collecting samples. The job entailed more restoration and surveying which was new to me and it opened my eyes to see potential sources of pollution. " – Naomi Robert

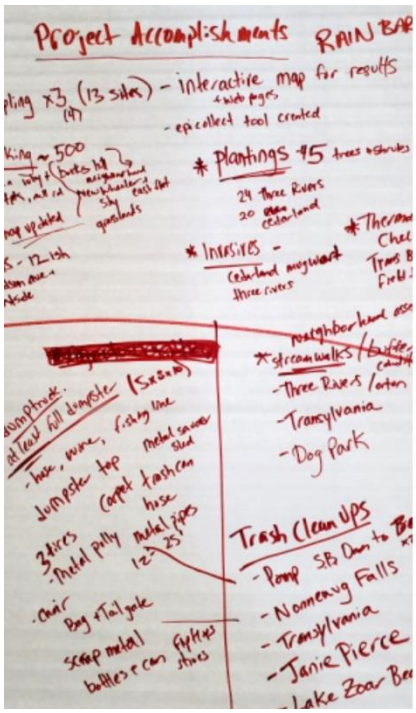
"They exceeded expectations because I expected it to be very tedious and tiring work, and while I always felt physically tired at the end of the day, I was always excited to come back in the morning and continue on whatever projects we were working on. I learned more and completed a wider variety of projects than I thought I would, and most of those things were in a wider range of topics than I expected."
– Selana Kurutan

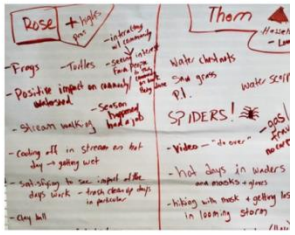
What is/will be your most memorable part of the season?

“The end of each day looking at what we accomplished (ex. After we pulled all of the trash out of the river)” – Dillon Larkin

“The most memorable part of this season was the people I was able to work with. My team was made up of incredible people who were very passionate about the environment just like me. We worked very well together and got a lot of this accomplished. Carol, Hailey, and Anne were all amazing people to work for and taught me a lot about the watershed! The trash clean ups were very rewarding because at the end of the day it was nice to see the pile of trash we were able to either pull out of the river or collect along certain parts and trails near the water. It was satisfying to know that we were helping the ecosystem by doing our trash clean ups.” - Hannah Pryor

“Making a difference for the community was rewarding even though we did not interact with them too much. It was great to be out studying what I am passionate about while benefiting the community. ” – Naomi Robert





“The most memorable part of the season would have to be any of the trash cleanups. They were always sad moments to see all of the garbage that made its way into the river - especially the water chestnut days - but we always had fun and made light of the situations. We would try to figure out the easiest ways to carry the trash bag, think about where the trash could have come from, acted as if they were presents for each member of the crew as we pulled them out of the water, nicknamed water chestnuts "water chesties" and appointed a guard to make sure none of them escaped as we picked them, climbed over trees and bushes, tried not to get stabbed by multiflora rose and nettles, and even created a clay ball (the best ball ever!!). The trash cleanups were always hard moments because of the physical labor, as well as emotionally because of how upset we would get with people letting the trash enter the river, but they became fun moments because of how happy we felt with the work we accomplished at the end of the day and how many memories we made.“ – Selana Kurutan

Describe how your personal connection to the environment has been effected by this experience.

I have always been close to nature, but this job opportunity has brought me to see beauty everywhere. Most of the time our work was surrounded by wildlife and peaceful ambiance that is very relaxing. It has helped me become more mindful and in the present moment. ” – Naomi Robert

“Before this experience, I would call nature an acquaintance of mine. I had a good connection with it, but it didn't feel very close or personal. After this experience, I would call nature a close friend as I understand more about it, specifically how it can be affected by the smallest things a human can do to it. I further understand the working and ways of the watershed as well as the environment, and have a greater feel of the ways in can be harmed.“ – Selana Kurutan

What were the more annoying parts of the season?

“The only annoying part was the weather, but we found ways to work around the storms and sun.” - Hannah Pryor

“Sweating in waders on hot humid days” – Dillon Larkin

“Driving in separate cars for social distancing” – Naomi Robert

What would you change or how would you improve the program?

“I would make the program a little longer because I feel like when we ended the program we were just getting started with our work. It would allow more projects to get done and for the team to learn more about the watershed.” - Hannah Pryor

“I would probably change the number of interns to 2. It seemed we could do tasks more efficiently when we were able to split up whether with the crew or in the office entering data. ” – Naomi Robert

Overall, how would you describe your experience as a YCC Crew Member?

“My experience was very productive and fun. I loved all the projects I was involved in and the people I worked with. I learned so much about the river and protecting such resources for future generations to enjoy and how I can make a positive impact on its health. We had so many funny and entertaining moments together as a team and I wouldn’t change my experience for the world.” - Hannah Pryor

“It was very fun, working with the crew made all situations seem better because we were all in it together (like wearing hot waders), and the funny comments just made it better! ” – Naomi Robert

“I would describe my experience as a part of the YCC as a positive, inspiring, educational, and good-natured (puns haha) experience. Each day was quite literally an adventure. I was always excited to see what would be the challenge of the day and to learn more about a watershed and community I didn't know a lot about. The crew was always supportive and excited, and I never dreaded having to see my coworkers (no childhood bullies here!). I couldn't have asked for a better crew or experience to spend 6 weeks of my summer during COVID with :).“ – Selana Kurutan

What would you tell friends about your experience with the YCC?

“If you want to be a part of restoring and protecting river ecosystems then this is the program for you. You will learn so many great skills not only in the environmental field but in life in general.” - Hannah Pryor

“I would tell my friends it was a fun, adventurous, and educational time. I would tell them of all the good things we did as well as all the upsetting things we saw. I would also tell them what I learned about the watershed and how they can help protect it.” – Selana Kurutan

How have you benefited from participating in the YCC program?

“Solidified my passion for the outdoors and nature” – Dillon Larkin

This job has helped me become more confident in myself and it is a helpful addition to my resume. ” – Naomi Robert

“I have learned so much more since joining the YCC program. I've learned more about the watershed, the community, and what a job in the world of natural resources might look like. I've also learned more about myself, such as who I want to grow up to be and what field of interest I would like to go in. I'm at the age in my life where I'm figuring out who I am in our society, and I believe my time with the YCC program has helped me figure some of that out.“ – Selana Kurutan

Please share any other comments here.

“Thank you for a wonderful opportunity with a wonderful crew! The season over-exceeded expectations. There was so much variety in the projects and exposure to different components of working in the environmental field. It provided clarity in pursuing a career in the natural resources field.” – Selana Kurutan

“I realized how important communication is in the natural resource field and how much communication is required. There is so much outreach and conveying of information!” – Dillon Larkin

“It was a great season and great memories! Thank you for making this season possible for all of us! ” – Naomi Robert