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Public Information Meeting

Pomperaug River Watershed Based Plan

August 22, 2018

POMPERAUG RIVER WATERSHED COALITION

Purpose of Tonight's Meeting

- Describe the watershed plan update process
- Summarize watershed conditions and issues
- Present draft plan recommendations
- Seek additional community input to help finalize the plan

Project Team

- Project Leaders
  - Pomperaug River Watershed Coalition (PRWC)
  - CT Department of Energy and Environmental Protection (CTDEEP)
  - Fuss & O'Neill, Inc.
- PRWC Land Use Committee
  - Town land use departments
  - Local conservation organizations
  - Regional, state, and federal agencies
- Project Funding
  - US EPA and CTDEEP Clean Water Act Section 319 Nonpoint Source Grant
  - Connecticut Community Foundation

The project of updating the Pomperaug Watershed Management Plan to an EPA 9-Element Watershed Based Plan is 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 as well as by the Connecticut Community Foundation

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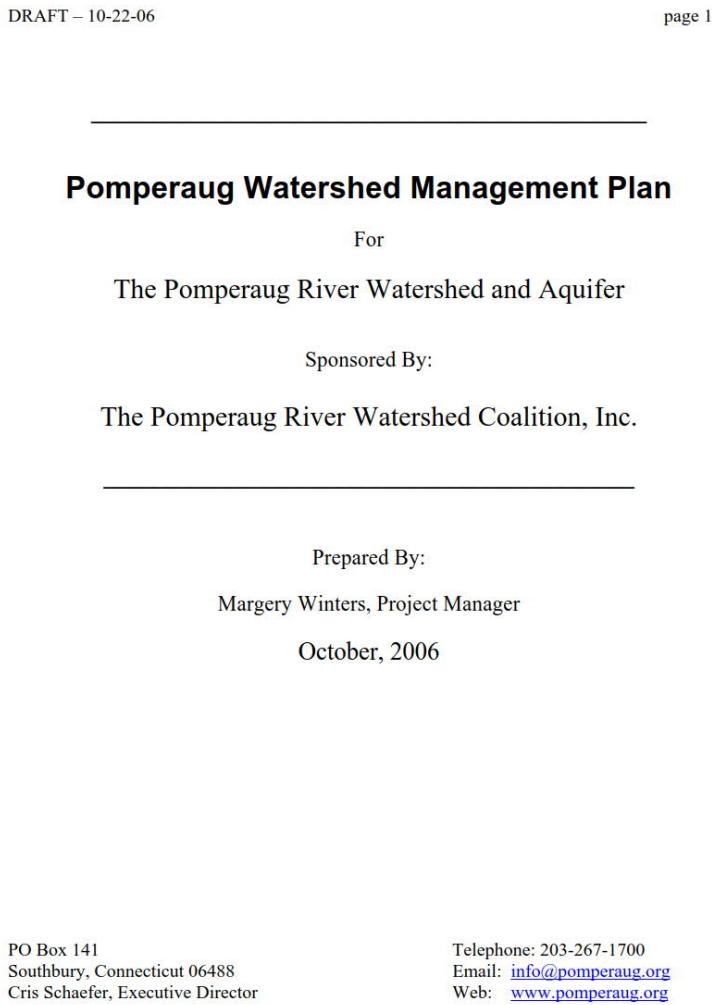
Project Goals

- Update the 2006 Pomperaug River Watershed Management Plan
  - Consolidate previous and ongoing work under one plan
  - Meet EPA's required Nine Elements
  - Improve chances for funding and implementation

EPA Nine Elements

1. Impairment
2. Load Reduction
3. Management Measures
4. Technical & Financial Assistance
5. Public Information & Education
6. Schedule
7. Milestones
8. Performance Criteria
9. Monitoring



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Pomperaug Watershed Management Plan

For

The Pomperaug River Watershed and Aquifer

Sponsored By:

The Pomperaug River Watershed Coalition, Inc.

Prepared By:

Margery Winters, Project Manager

October, 2006

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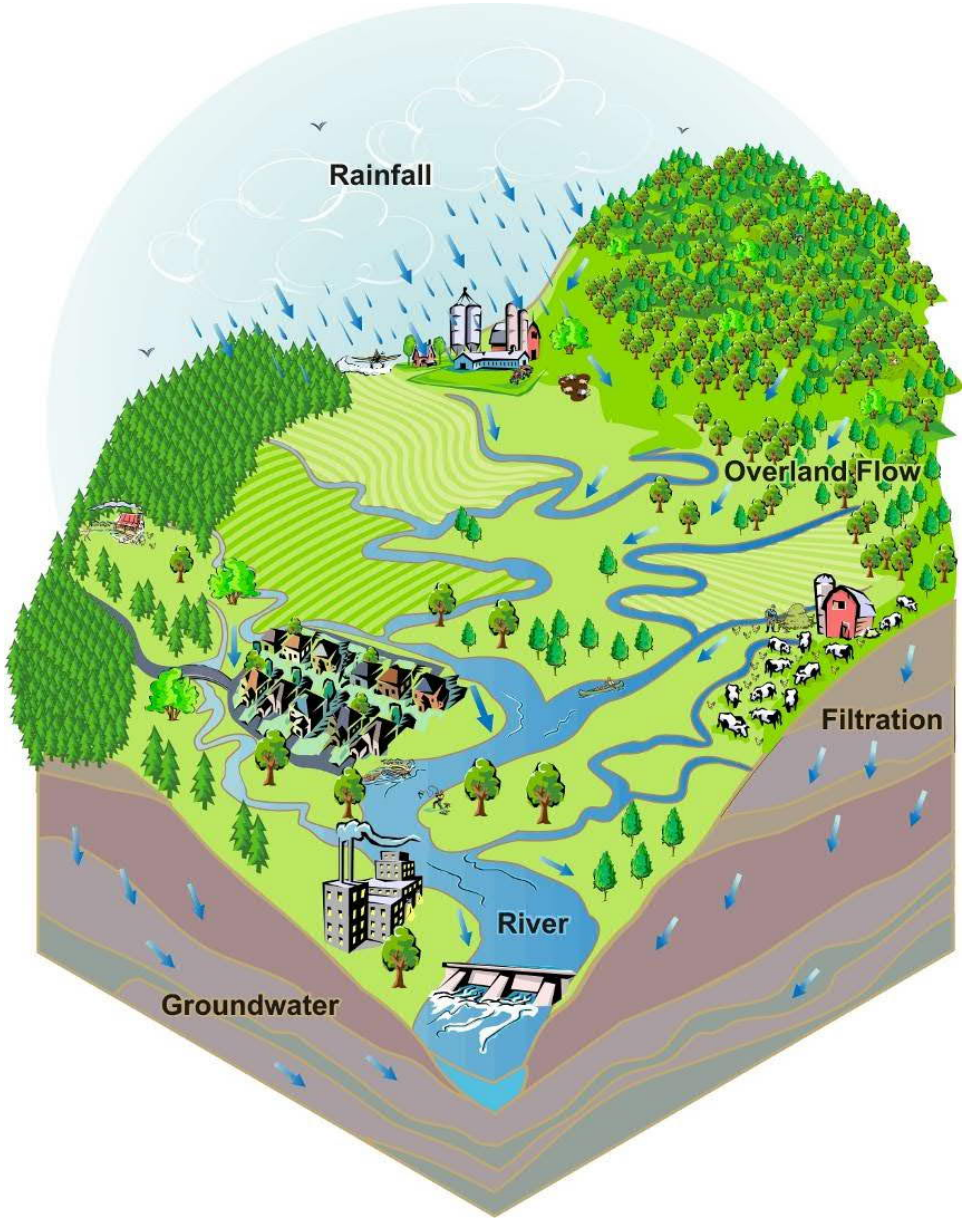
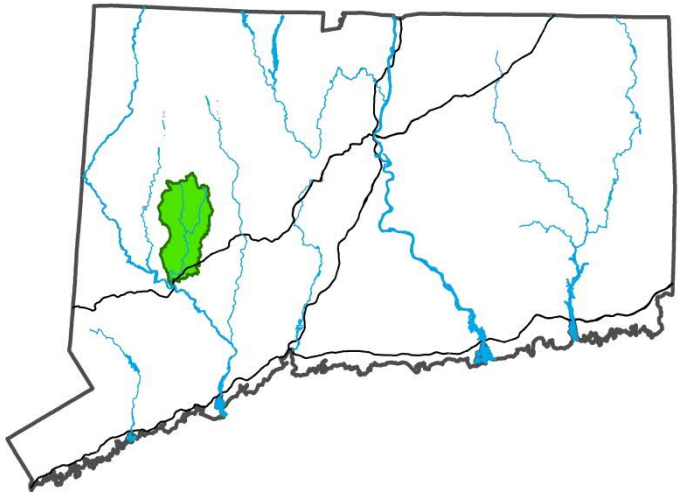
What is a Watershed?



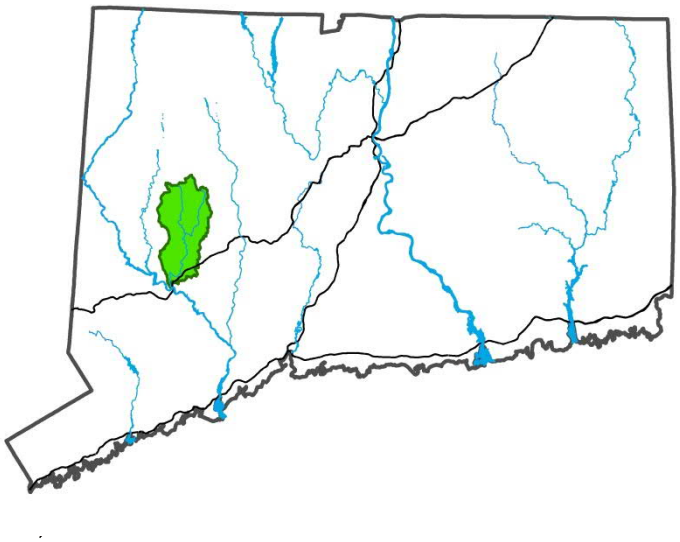
Pomperaug River Watershed Overview

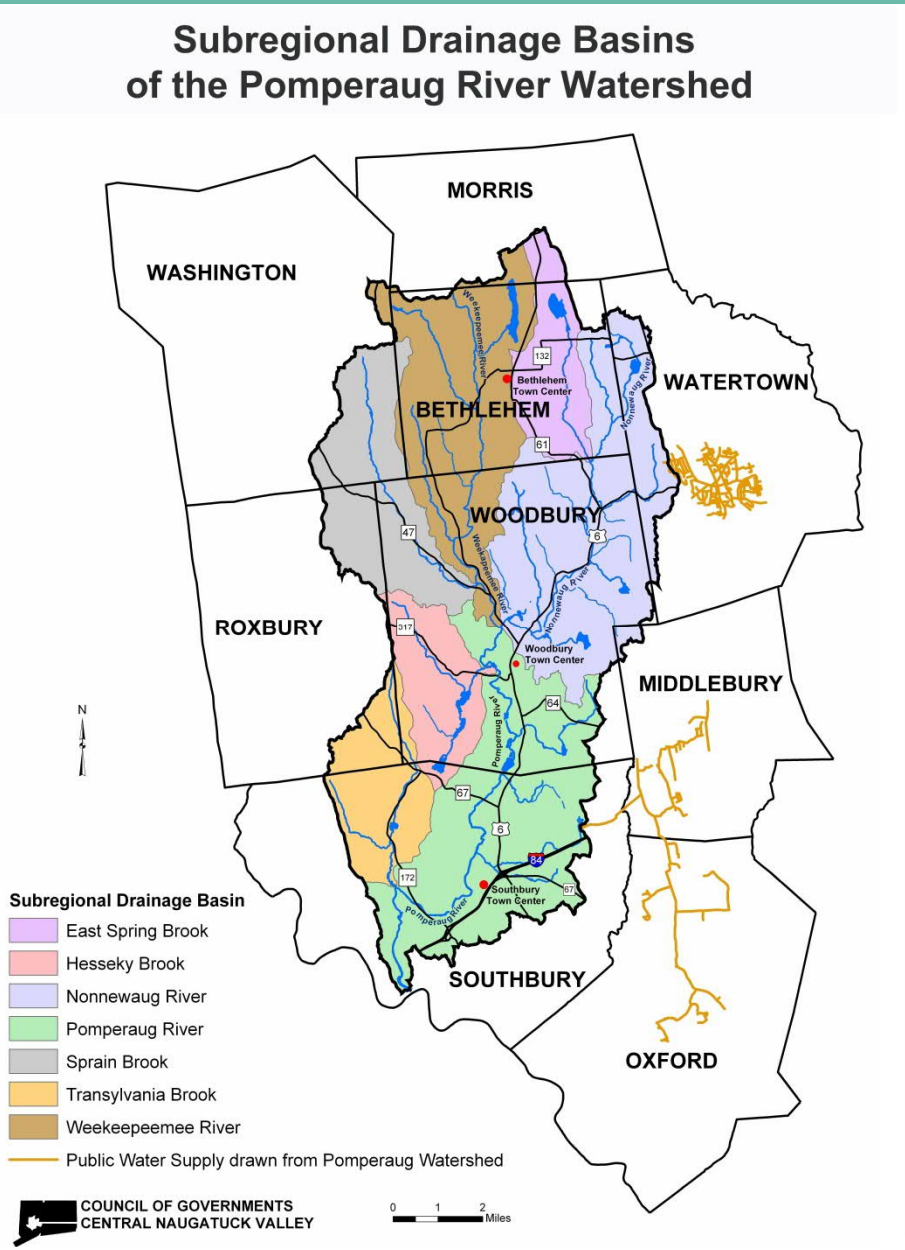
- 90 square-mile Regional Basin
- Portions of 8 towns



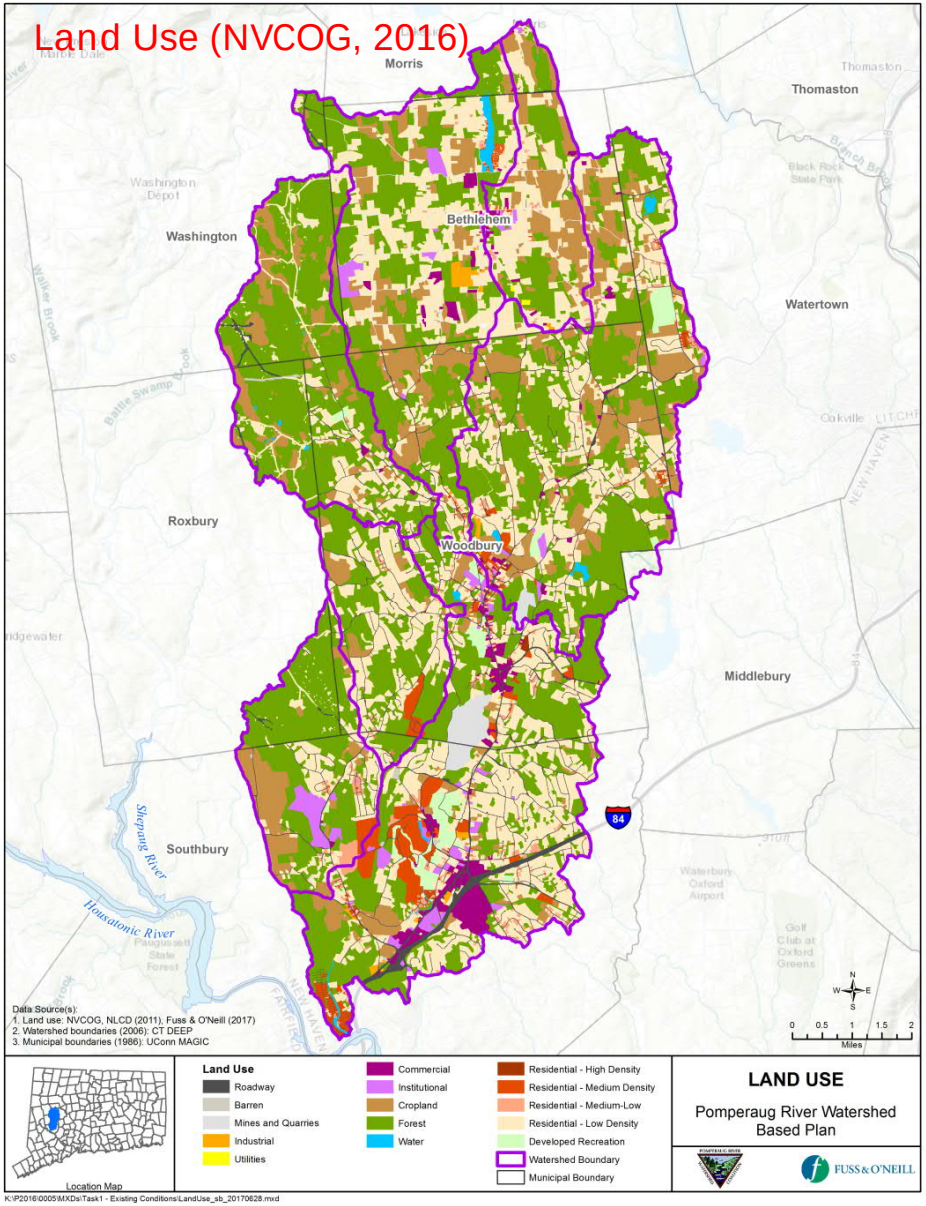
Pomperaug River Watershed Overview

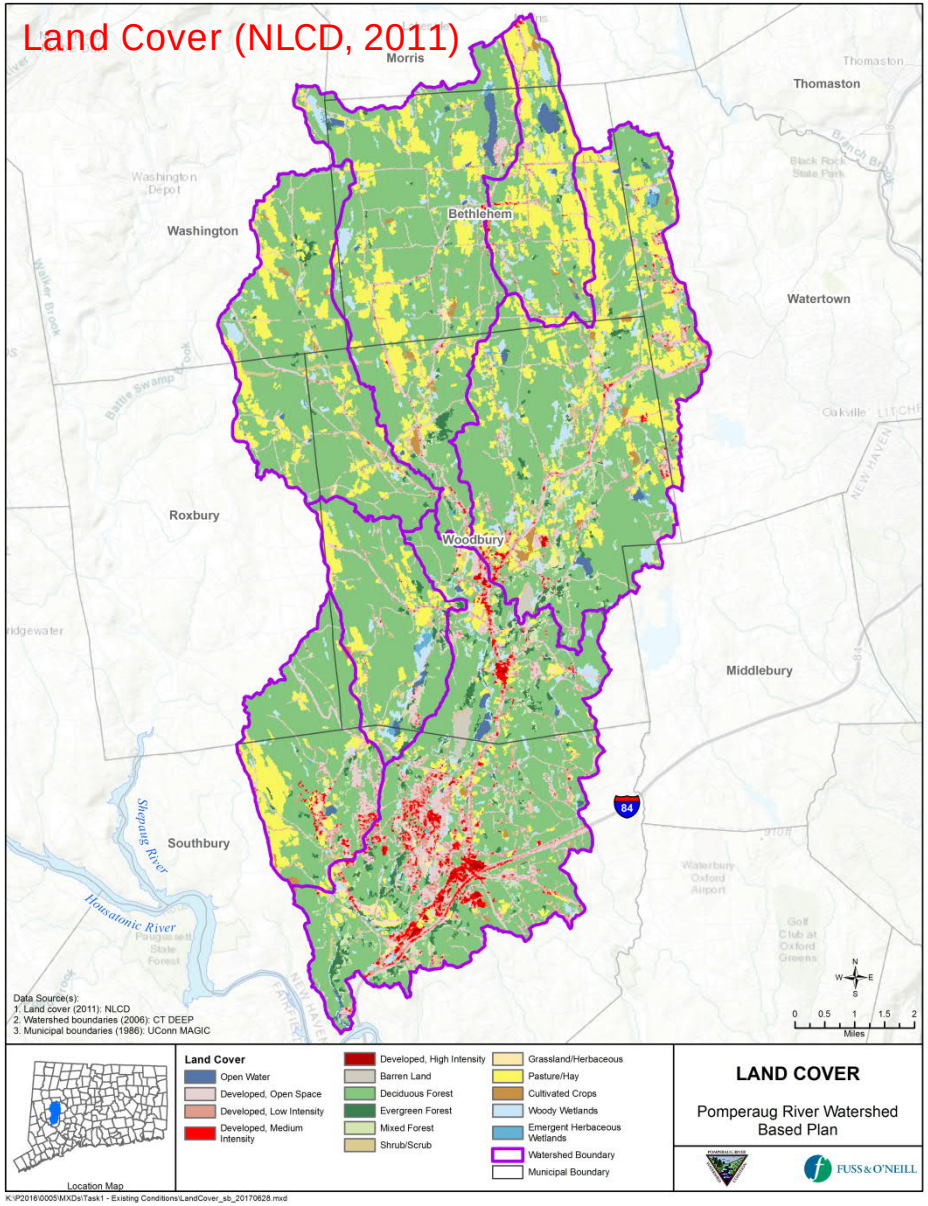
- 7 major Subregional Drainage Basins
- Major tributaries



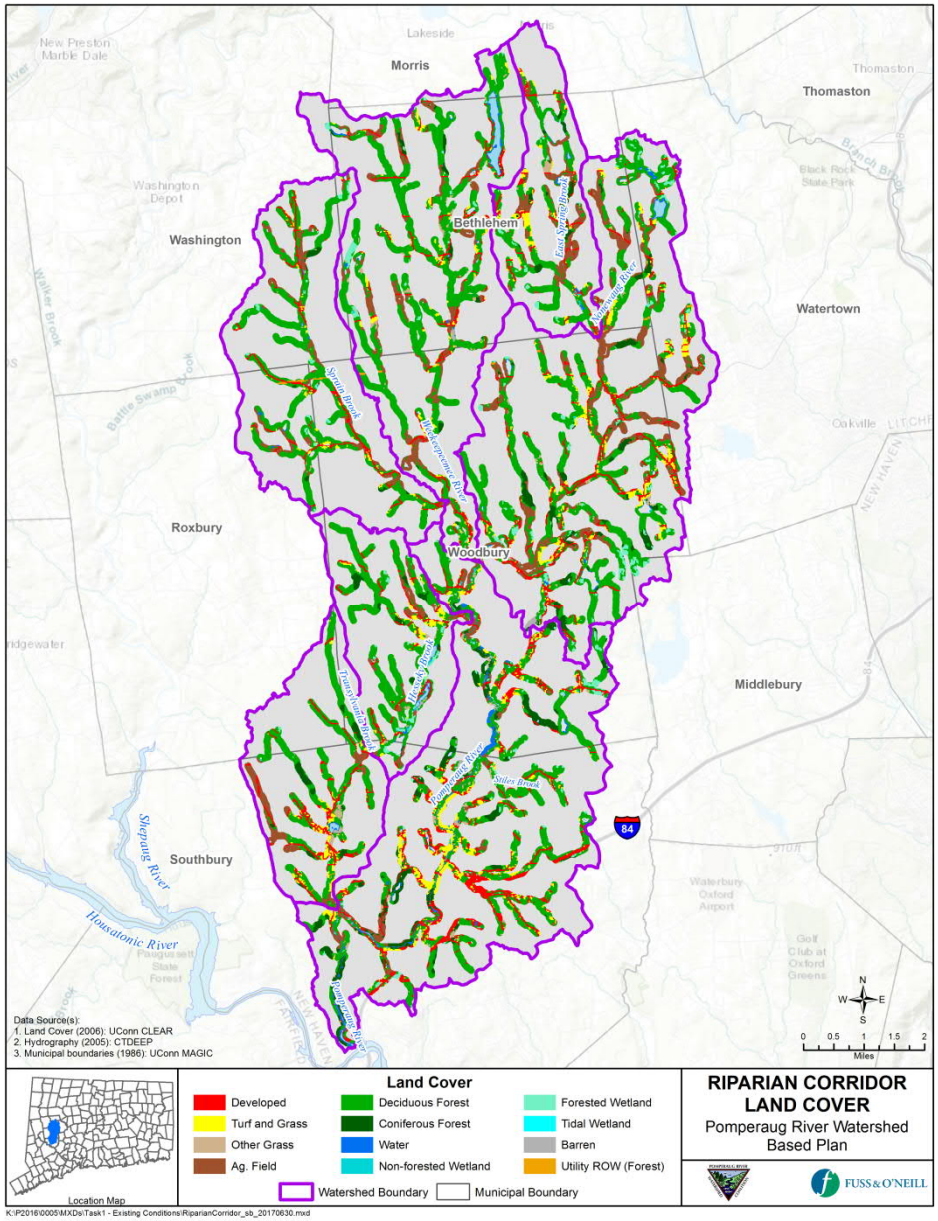


Land Use / Land Cover





Riparian Corridor Land Cover



- Natural buffers filter and infiltrate runoff, reduce flooding, and provide habitat
- UConn Center for Land Use Education And Research (CLEAR), 2006 Statewide Analysis
- 300-foot buffer either side of stream centerline
- All mapped perennial and intermittent streams in watershed

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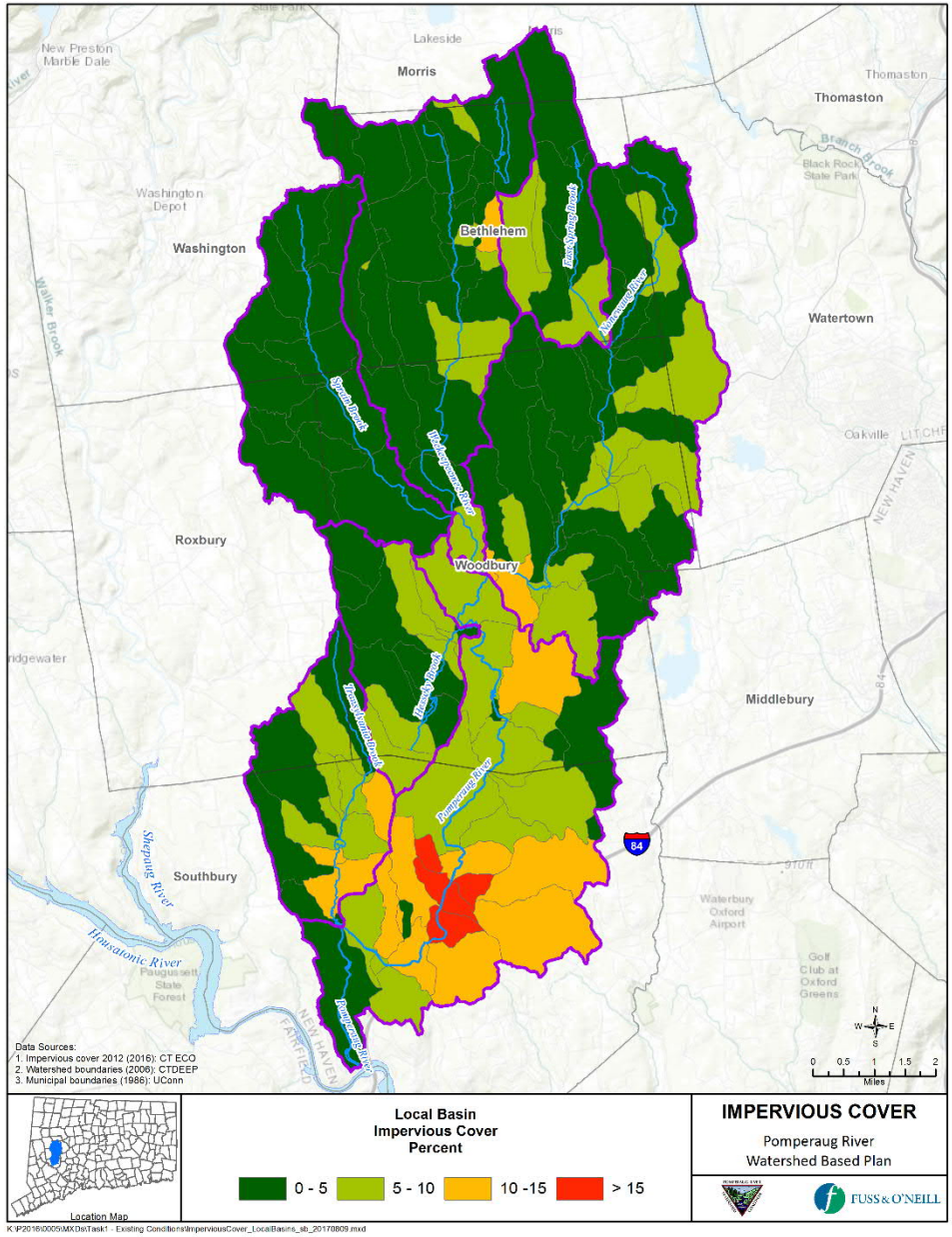
Riparian Corridor Land Cover

- Mostly forest and wetland
- Pomperaug Subregional Basin more developed than agricultural
- Other Subregional Basins show the opposite pattern

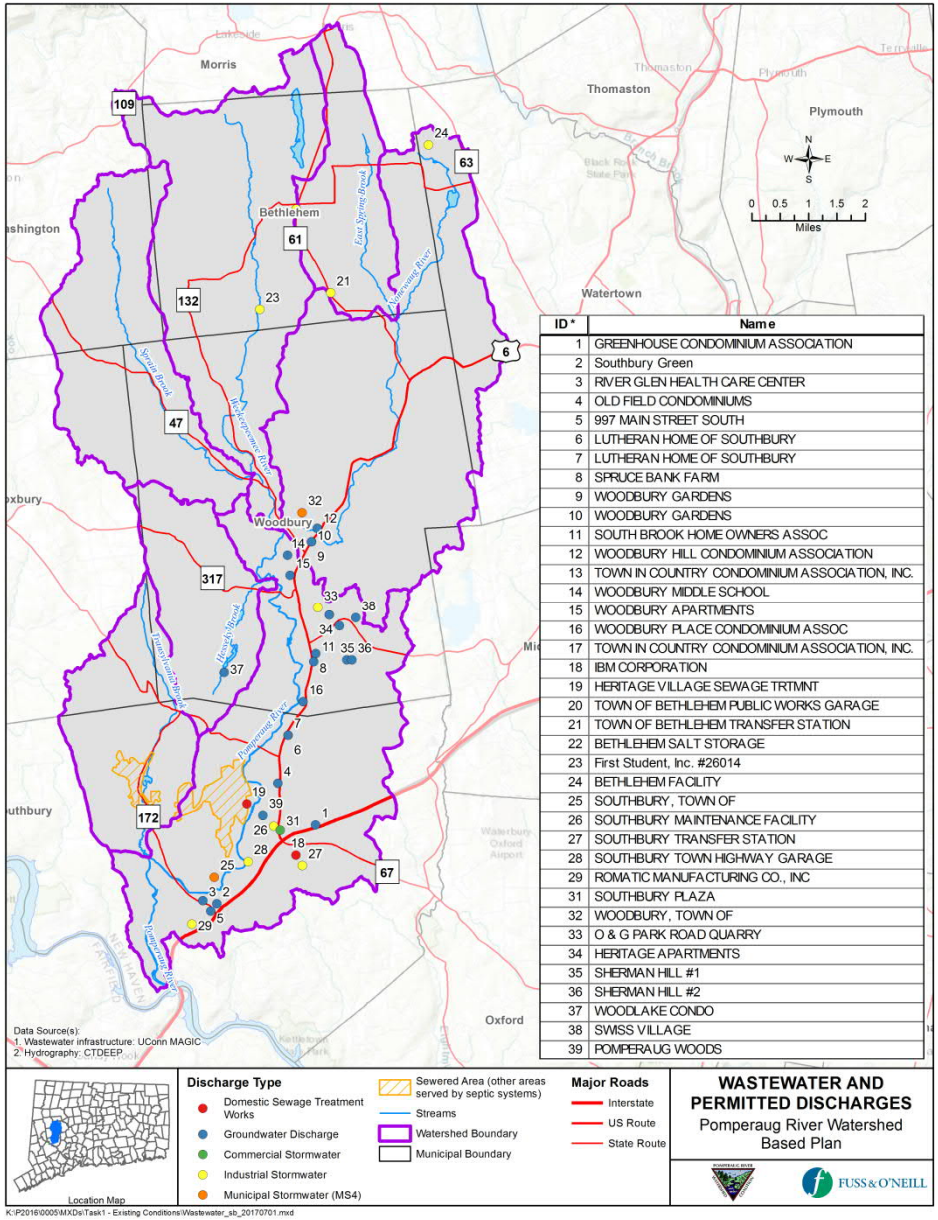
Land Cover Category	East Spring Brook	Hesseky Brook	Nonewaug River	Pomperaug River	Sprain Brook	Transylvania Brook	Weekeepeemee River
Developed, Other Grasses, Barren	10.33	10.33	12.05	**22.05**	11.74	17.63	9.89
Agriculture, Turf & Grass	**30.38**	**14.91**	**26.76**	14.54	**15.98**	**20.13**	**19.36**
Forest, Wetland, Water	**59.29**	**74.76**	**61.20**	**63.41**	**72.28**	**62.24**	**70.74**
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Impervious Cover

- 2012 statewide data, 1-foot resolution
- Analyzed by Local and Subregional Drainage Basins
- 12% “impacts” threshold
- Pomperaug Regional Basin: 5.6%
- Pomperaug Subregional Basin: 9.8%
- Local Basins: 9 exceed threshold (some 20-30%)



Wastewater and Other Permitted Discharges



ID*	Name
1	GREENHOUSE CONDOMINIUM ASSOCIATION
2	Southbury Green
3	RIVER GLEN HEALTH CARE CENTER
4	OLD FIELD CONDOMINIUMS
5	997 MAIN STREET SOUTH
6	LUTHERAN HOME OF SOUTHBURY
7	LUTHERAN HOME OF SOUTHBURY
8	SPRUCE BANK FARM
9	WOODBURY GARDENS
10	WOODBURY GARDENS
11	SOUTH BROOK HOME OWNERS ASSOC
12	WOODBURY HILL CONDOMINIUM ASSOCIATION
13	TOWN IN COUNTRY CONDOMINIUM ASSOCIATION, INC.
14	WOODBURY MIDDLE SCHOOL
15	WOODBURY APARTMENTS
16	WOODBURY PLACE CONDOMINIUM ASSOC
17	TOWN IN COUNTRY CONDOMINIUM ASSOCIATION, INC.
18	IBM CORPORATION
19	HERITAGE VILLAGE SEWAGE TRTMNT
20	TOWN OF BETHLEHEM PUBLIC WORKS GARAGE
21	TOWN OF BETHLEHEM TRANSFER STATION
22	BETHLEHEM SALT STORAGE
23	First Student, Inc. #26014
24	BETHLEHEM FACILITY
25	SOUTHBURY, TOWN OF
26	SOUTHBURY MAINTENANCE FACILITY
27	SOUTHBURY TRANSFER STATION
28	SOUTHBURY TOWN HIGHWAY GARAGE
29	ROMATIC MANUFACTURING CO., INC
31	SOUTHBURY PLAZA
32	WOODBURY, TOWN OF
33	O & G PARK ROAD QUARRY
34	HERITAGE APARTMENTS
35	SHERMAN HILL #1
36	SHERMAN HILL #2
37	WOODLAKE CONDO
38	SWISS VILLAGE
39	POMPERAUG WOODS

- CTDEEP
  - Point discharges (versus nonpoint)
  - Discharge permits database, 2016
  - Sewered area, 1997
- 39 permitted dischargers
- Sewage treatment plants
- Large permitted septic systems

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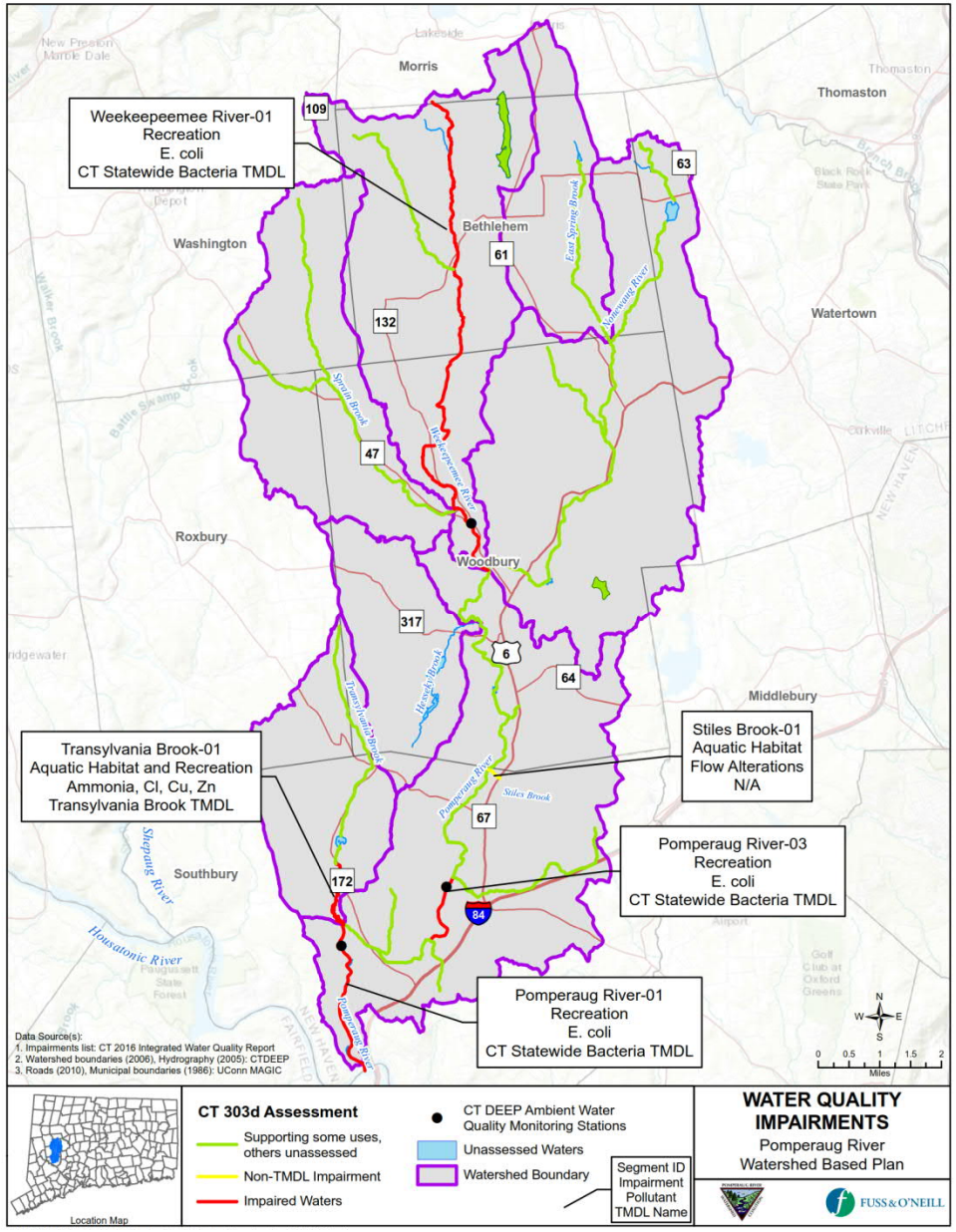
Surface Water Quality



- CT 2016 Integrated Water Quality Report
- Designation based on "impaired" uses
  - Recreation (swimming, fishing, and boating)
  - Aquatic habitat
  - Fish consumption
  - Drinking water supply
- Very limited data set

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Surface Water Quality Impairments

- Five impaired segments
  - Pomperaug River (2)
  - Weekeepeemee River
  - Transylvania Brook (3)
  - Stiles Brook
- State-wide Bacteria TMDL
  - Pomperaug River
  - Weekeepeemee River
- Transylvania Brook TMDL

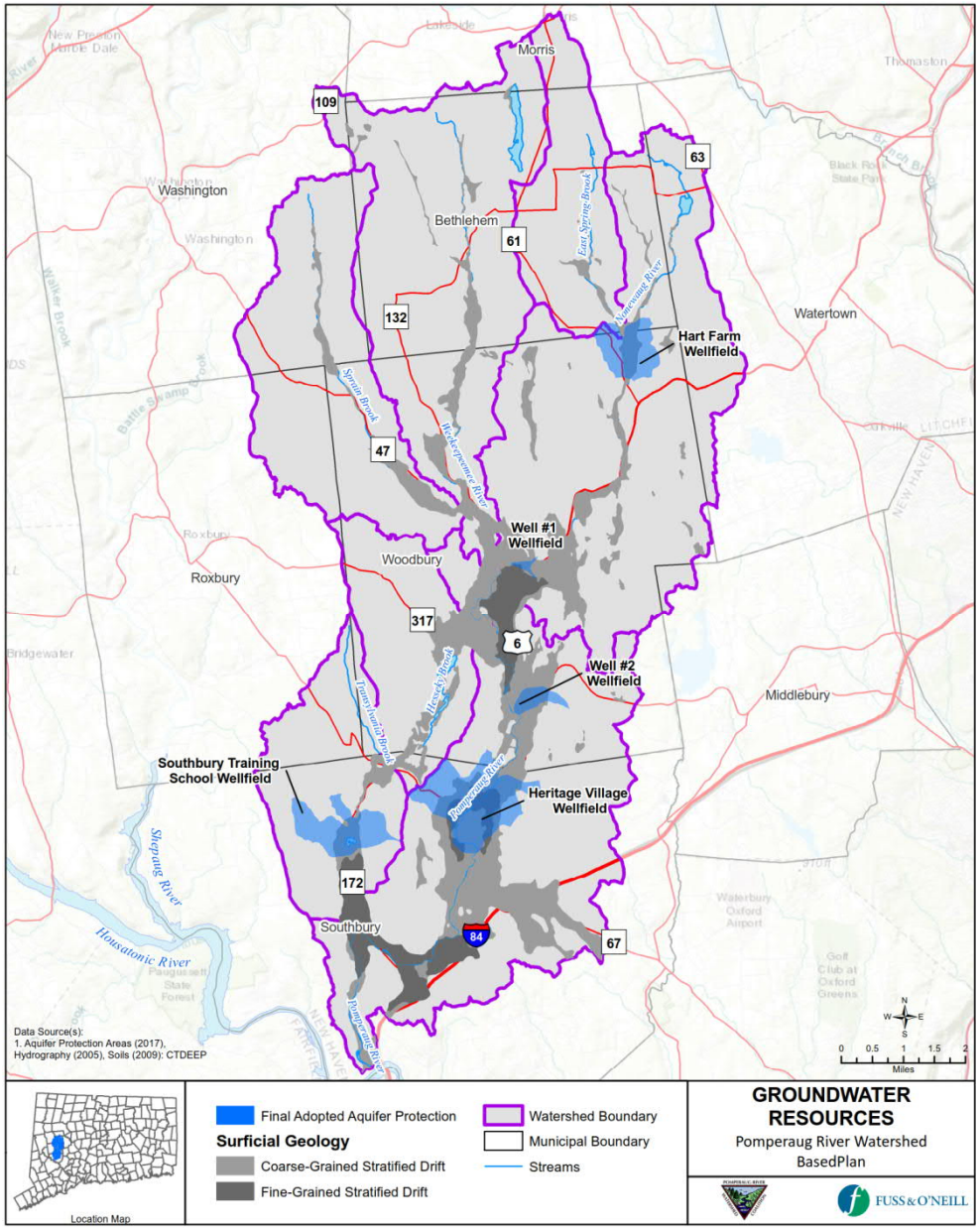
Impaired Water Body	Impairment	Pollutant of Concern	TMDL Name	Length (mi)
Pomperaug River-01	Recreation	E. coli	CT Statewide Bacteria TMDL	2.74
Pomperaug River-03	Recreation	E. coli	CT Statewide Bacteria TMDL	1.31
Stiles Brook-01	Aquatic Habitat	Flow alterations	TMDL not required	0.25
Weekeepeemee River-01	Recreation	E. coli	CT Statewide Bacteria TMDL	9.61
Transylvania Brook (Southbury)-01	Aquatic Habitat and Recreation	Ammonia, Cl, Cu, Zn	Transylvania Brook TMDL	1.6
Transylvania Brook (Southbury)-01	Aquatic Habitat and Recreation	Flow alterations	TMDL not required	1.6
Transylvania Brook (Southbury)-01	Recreation	E. coli	Proposed for TMDL	1.6

Physical Alterations

- Altered stream channels, floodplains, and riparian corridors
  - Dams
  - Gravel removal operations
  - Groundwater withdrawals
  - Land development

- Impacts to water quality, habitat, and flow regime
- Proposed Stream Flow Classifications
  - Standards for maintaining minimum flows in rivers and streams

Groundwater Resources



- Significant prior study of groundwater resources
- Strong connection between groundwater and surface water
- High yield sand and gravel aquifers
- Susceptible to contamination, depleted wells, low river flows

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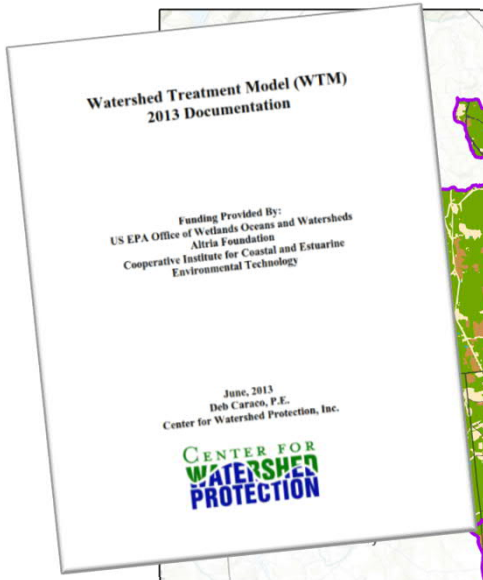
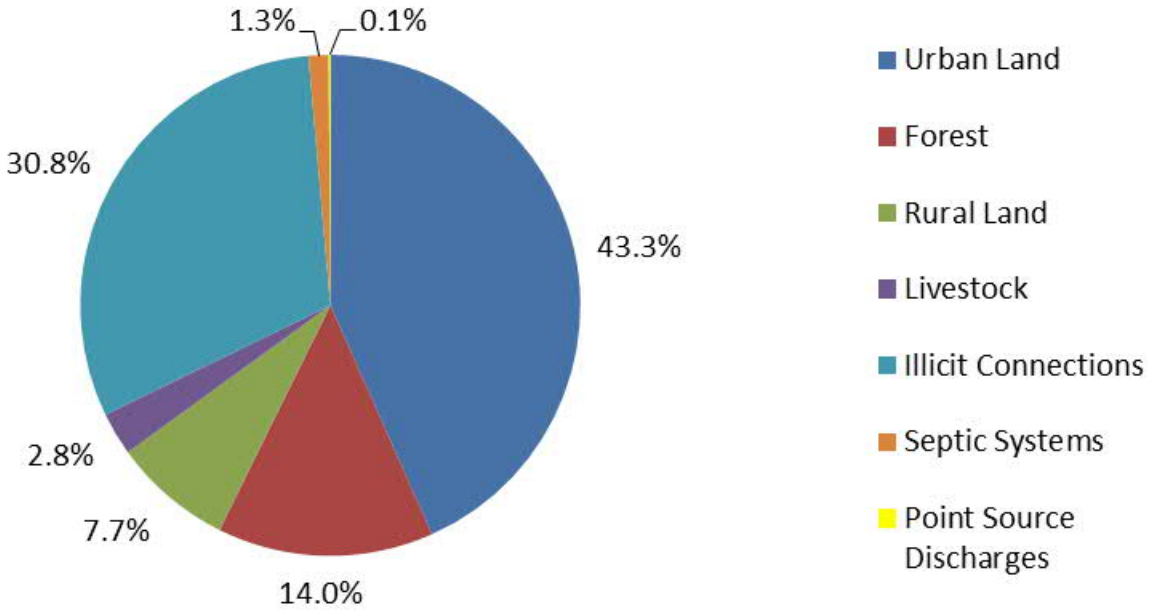
Pollutant Loading Model

- Watershed Treatment Model (WTM) – surface runoff pollutant loads
- Annual loadings of bacteria, nutrients, and sediment to surface waters
- Primary sources – land use
- Secondary sources – point sources, septic systems, illicit discharges, etc.



Modeled Relative Bacteria Sources

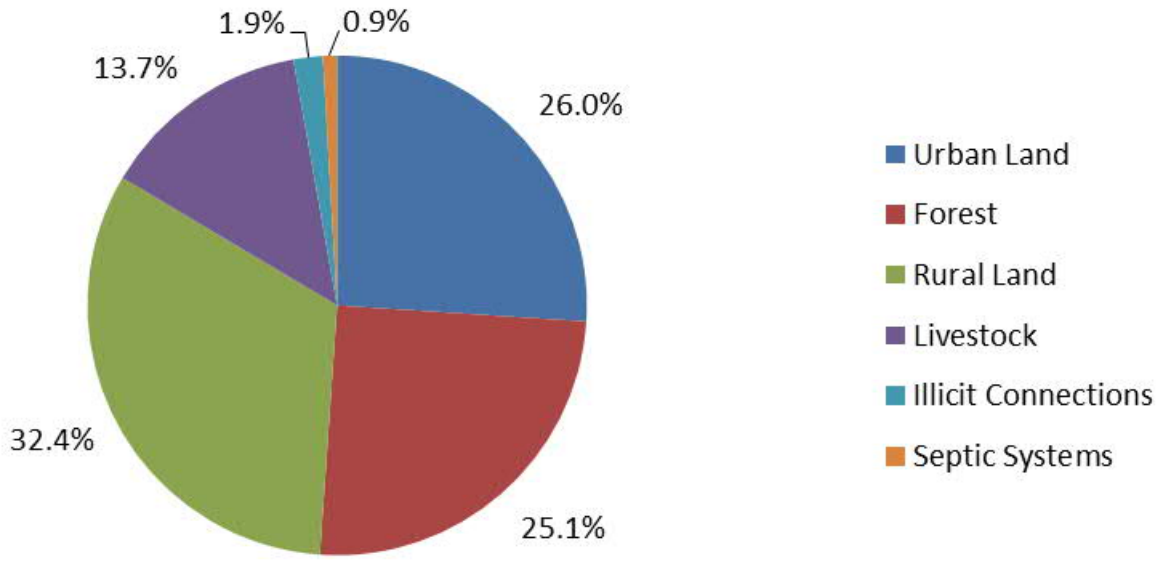
Pomperaug River Subregional Basin



- Stormwater runoff from developed land
- Illicit connections from residential and commercial land use
- Source controls, structural stormwater BMPs, education and outreach, illicit discharge detection and elimination

Modeled Relative Bacteria Sources

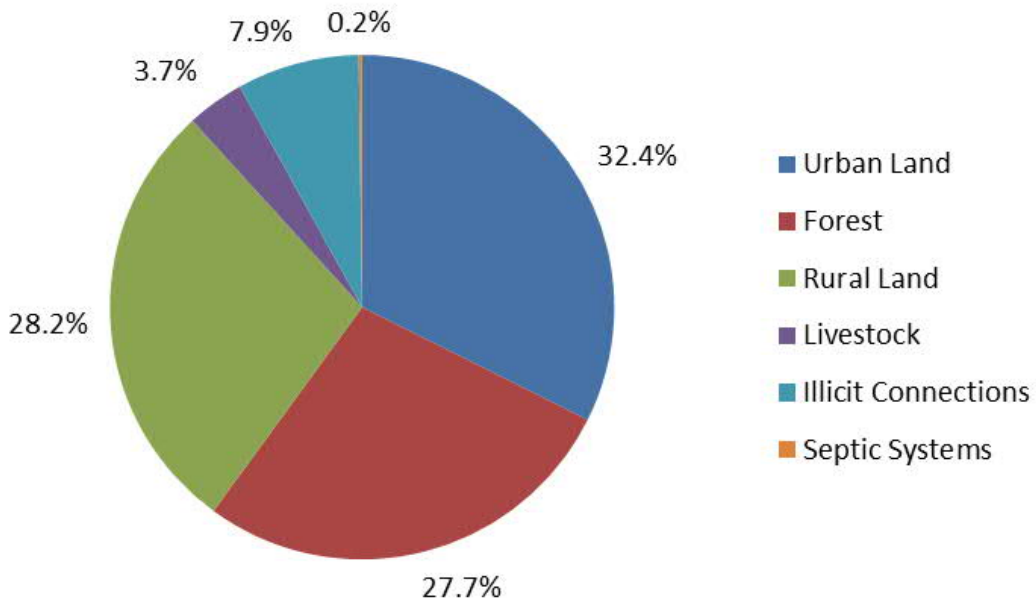
Weekeepeemee River Subregional Basin



- Stormwater runoff from agricultural land use and some developed land use
- Agricultural BMPs (livestock and manure management)

Modeled Relative Bacteria Sources

Transylvania Brook Subregional Basin



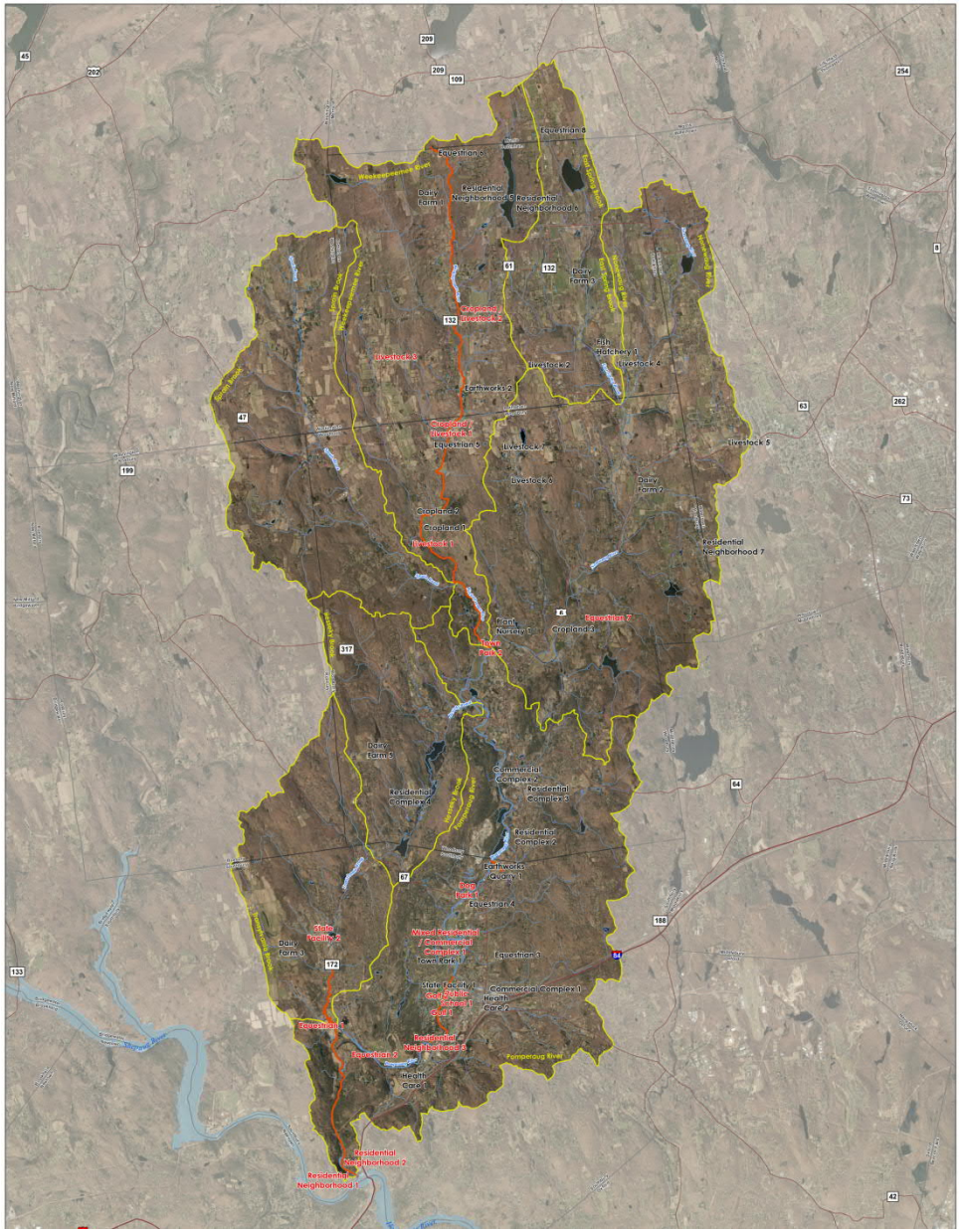
- Stormwater runoff from mix of agricultural and developed land uses

Visual Field Assessments

- Investigate suspected bacteria sources in areas with impairments
- Identify restoration, pollution prevention, and retrofit opportunities
- Standardized field protocols
  - Stream reaches
  - Neighborhoods
  - Hotspots

Pollution Hotspots/Areas of Concern

- Identified by LUC and PRWC
- Roughly 60 sites identified
- Potential bacteria sources
  - Urban stormwater
  - Agricultural land adjacent to streams
  - Streambank erosion
  - Manure management
  - Septic system issues
  - Significant point discharges
  - Waterfowl, pet waste

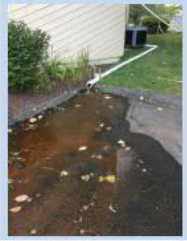


Site-Specific BMP Selection Matrix

BMP Prioritization Matrix for Potential Areas of Concern
Pomperaug River Watershed Based Plan

New Site ID (Impaired Segment)	Location Description	Bacteria Sources	Potential Best Management Practices (BMPs)	Other Recommendations and Notes	Relative BMP Pollutant (Bacteria) Removal	Relative Cost	Maintenance Requirements	Field Visit Conducted	BMP Concept Development	Photo
Mixed Residential / Commercial Complex 1 (Pomperaug-03)	Heritage Road, Southbury	Stormwater runoff	• Underground infiltration in ROW • Bioretention cells where feasible • Pervious pavement at older parking lots (e.g. Meeting House) needing maintenance	• Heritage Village should be included as a priority area in the Town of Southbury's MS4 Stormwater Management Program, including IDDE program implementation • Conduct a stormwater BMP retrofit inventory/feasibility study for Heritage Village, which would support Southbury's efforts to reduce and disconnect DCIA as required by the MS4 Permit	High	High	High	Yes	YES - LARGE	
Wastewater Treatment Facility 1 (Pomperaug-03)	Heritage Road, Southbury	Wastewater treatment plant	• Conduct additional ambient water quality monitoring at new sampling locations to determine extent of impairment and possible source(s) of bacteria		N/A	Low	N/A	Yes		
Commercial Complex 1 (tributary to Pomperaug-03)	East side of intersection of Route 6 and Main Street South, Southbury (South of Bullet Hill Brook)	Stormwater runoff, waste management, past septic issues	• Incorporate LID retrofits into site redevelopment • Underground infiltration, permeable pavement • Inspect septic systems for failure (due to size this falls under DPH or DEEP jurisdiction)	• Cover dumpsters with roof • Review stormwater control plan, if exists • Heavily channelized stream • Conduct survey for potential illicit discharges from businesses in plaza	High	High	High	Yes		

Business District 1 (Pomperaug-03)	Main Street South Corridor, Southbury (particularly concentrated at Municipal Complex west of the intersection with Peter Road	Stormwater runoff	• Develop and implement GI/LID "master plan" for Main Street South corridor
			• LID retrofits of municipal and commercial properties and within the municipal ROW between Route 6/Southbury Plaza and South Britain Road (Route 172)
			• Potential municipal sites include:
			  ○ Southbury Police, Fire, and DPW
			  ○ Southbury Town Hall
			  ○ Southbury Park and Recreation
			  ○ Rochambeau Middle School
			  ○ Pomperaug Elementary School
			  ○ Southbury Library
			  ○ Municipal ROW
			• Numerous commercial redevelopment sites along the corridor
					High	High	High	Yes		

Health Care 2 (tributary to Pomperaug-03)	Intersection of Main Street South and Garage Road	Dry weather discharge (pavement stained)	• Follow up sampling of dry weather discharge and removal of any illicit connections found		Medium	Low	Low	Yes		

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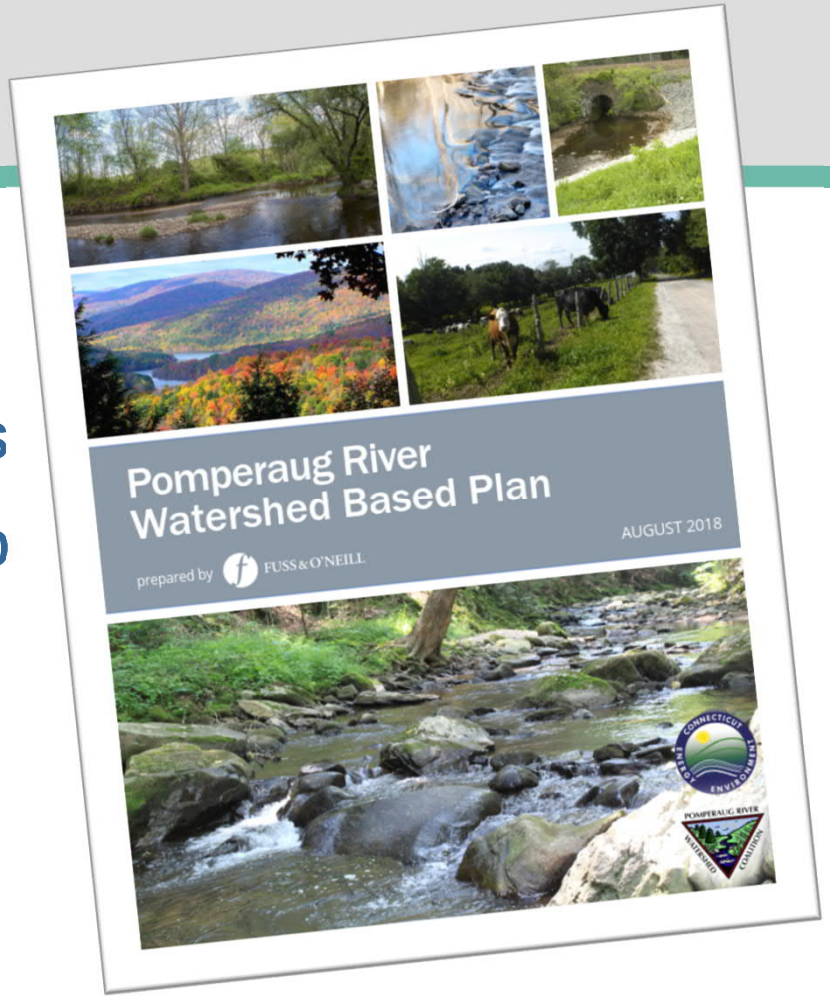
Watershed Based Plan

Plan Objectives

- Update baseline of water quality and land use conditions
- Evaluate contributing factors to impairments
- Identify water quality monitoring needs
- Establish community buy-in
- Identify and prioritize strategies to reduce pollutant inputs to impaired rivers and streams
- Incorporate proactive measures to protect/maintain high quality streams



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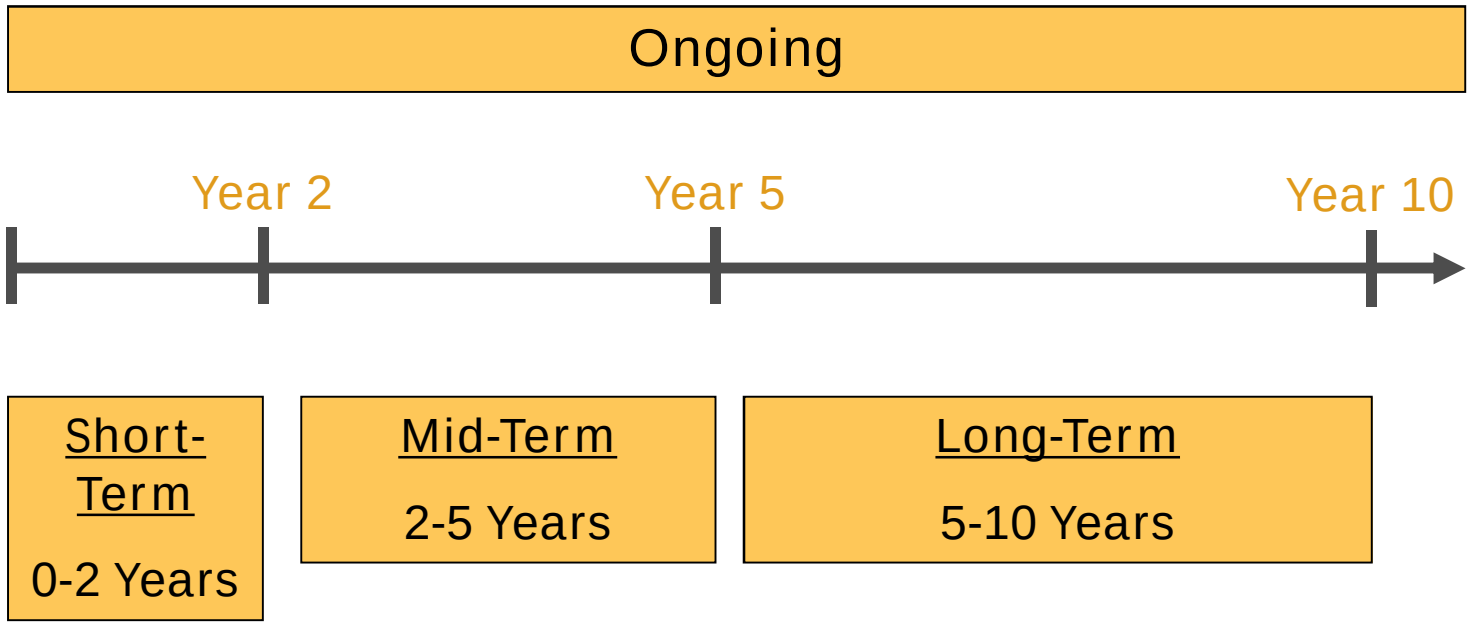
Framework of Recommended Strategies

- Watershed-wide strategies
- Site-specific concepts/demonstration projects
- Timeframe



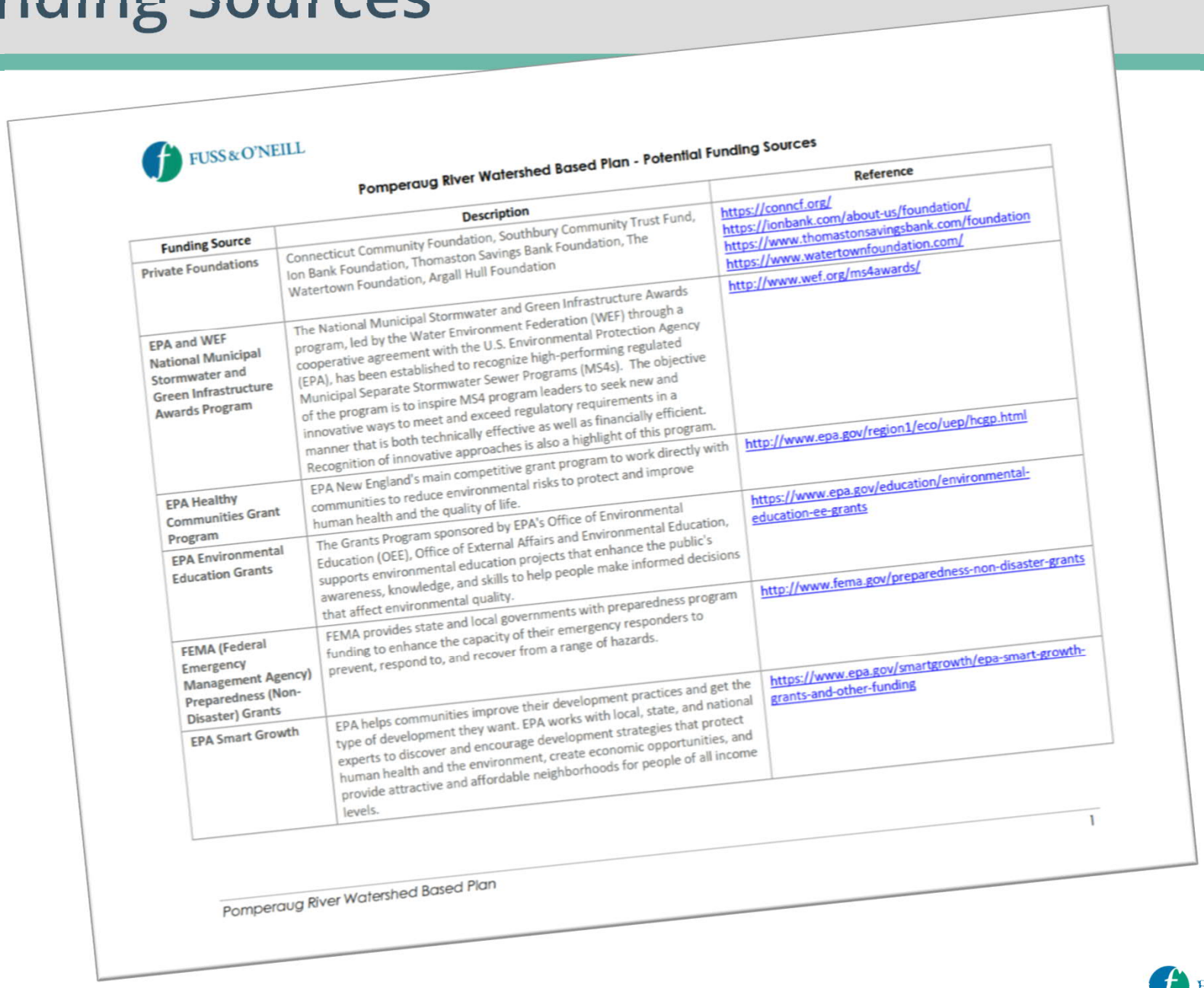
- Requires coordination and efforts by many partners

Capacity Building

Strengthen and build local capacity to implement the watershed management plan

1. Endorsement of the plan by municipal partners
2. Identify and pursue additional funding sources
   - Private foundations
   - CTDEEP/EPA Section 319 Nonpoint Source Grants
   - National Fish and Wildlife Foundation Long Island Sound Futures Fund
   - Connecticut Clean Water Fund (Green Infrastructure)

Funding Sources



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Pomperaug River Watershed Based Plan - Potential Funding Sources

Funding Source	Description	Reference
Private Foundations	Connecticut Community Foundation, Southbury Community Trust Fund, Ion Bank Foundation, Thomaston Savings Bank Foundation, The Watertown Foundation, Argall Hull Foundation	https://conncf.org/ https://ionbank.com/about-us/foundation/ https://www.thomastonsavingsbank.com/foundation https://www.watertownfoundation.com/
EPA and WEF National Municipal Stormwater and Green Infrastructure Awards Program	The National Municipal Stormwater and Green Infrastructure Awards program, led by the Water Environment Federation (WEF) through a cooperative agreement with the U.S. Environmental Protection Agency (EPA), has been established to recognize high-performing regulated Municipal Separate Stormwater Sewer Programs (MS4s). The objective of the program is to inspire MS4 program leaders to seek new and innovative ways to meet and exceed regulatory requirements in a manner that is both technically effective as well as financially efficient. Recognition of innovative approaches is also a highlight of this program.	http://www.wef.org/ms4awards/
EPA Healthy Communities Grant Program	EPA New England's main competitive grant program to work directly with communities to reduce environmental risks to protect and improve human health and the quality of life.	http://www.epa.gov/region1/eco/uep/hcgp.html
EPA Environmental Education Grants	The Grants Program sponsored by EPA's Office of Environmental Education (OEE), Office of External Affairs and Environmental Education, supports environmental education projects that enhance the public's awareness, knowledge, and skills to help people make informed decisions that affect environmental quality.	https://www.epa.gov/education/environmental-education-ee-grants
FEMA (Federal Emergency Management Agency) Preparedness (Non-Disaster) Grants	FEMA provides state and local governments with preparedness program funding to enhance the capacity of their emergency responders to prevent, respond to, and recover from a range of hazards.	http://www.fema.gov/preparedness-non-disaster-grants
EPA Smart Growth	EPA helps communities improve their development practices and get the type of development they want. EPA works with local, state, and national experts to discover and encourage development strategies that protect human health and the environment, create economic opportunities, and provide attractive and affordable neighborhoods for people of all income levels.	https://www.epa.gov/smartgrowth/epa-smart-growth-grants-and-other-funding

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Pomperaug River Watershed Based Plan

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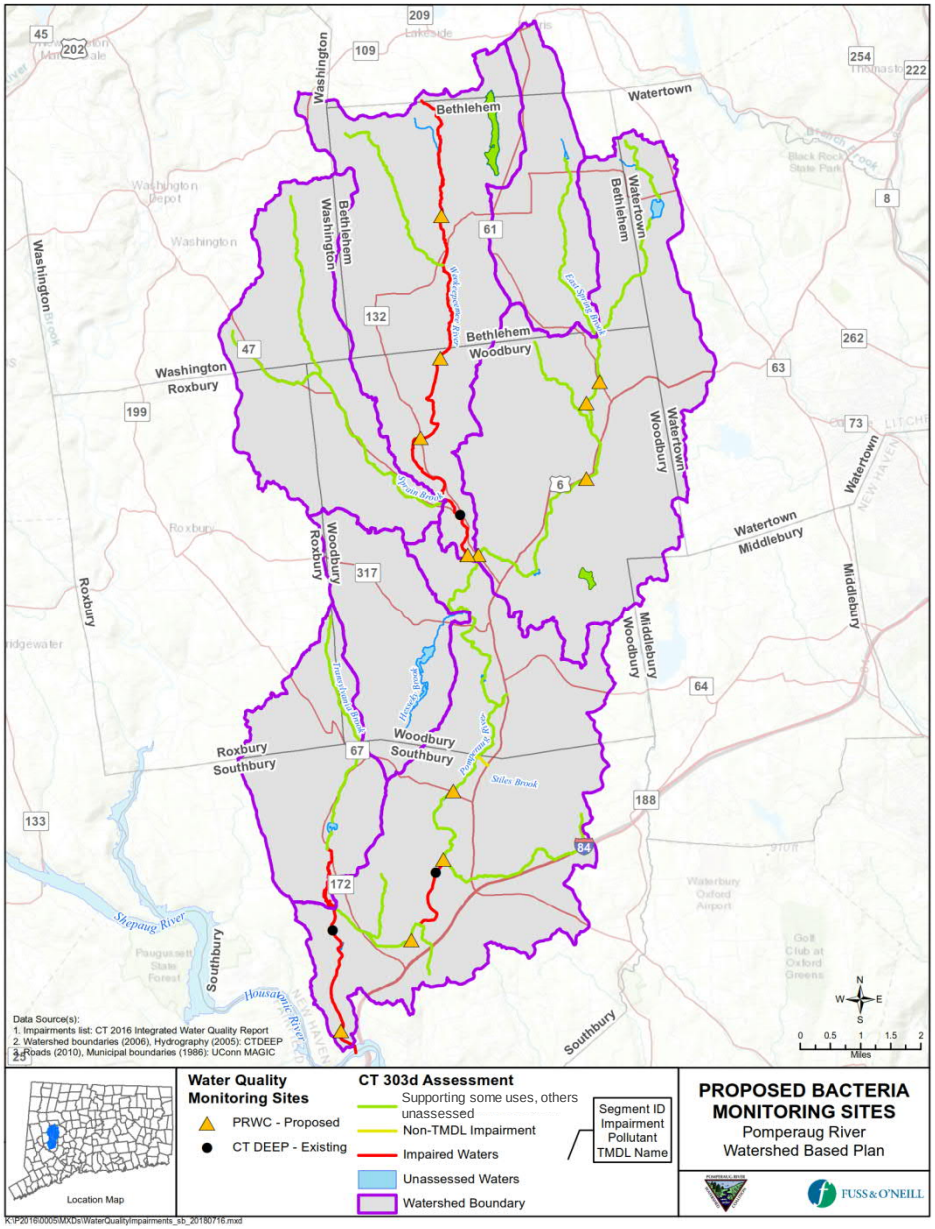
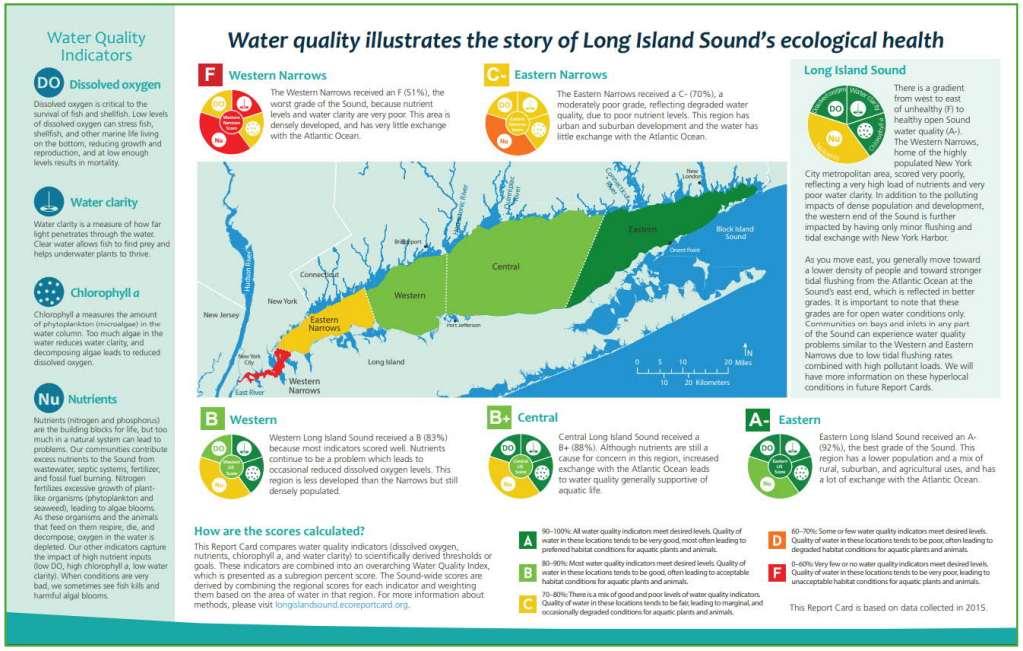
Proposed Bacteria Monitoring Program

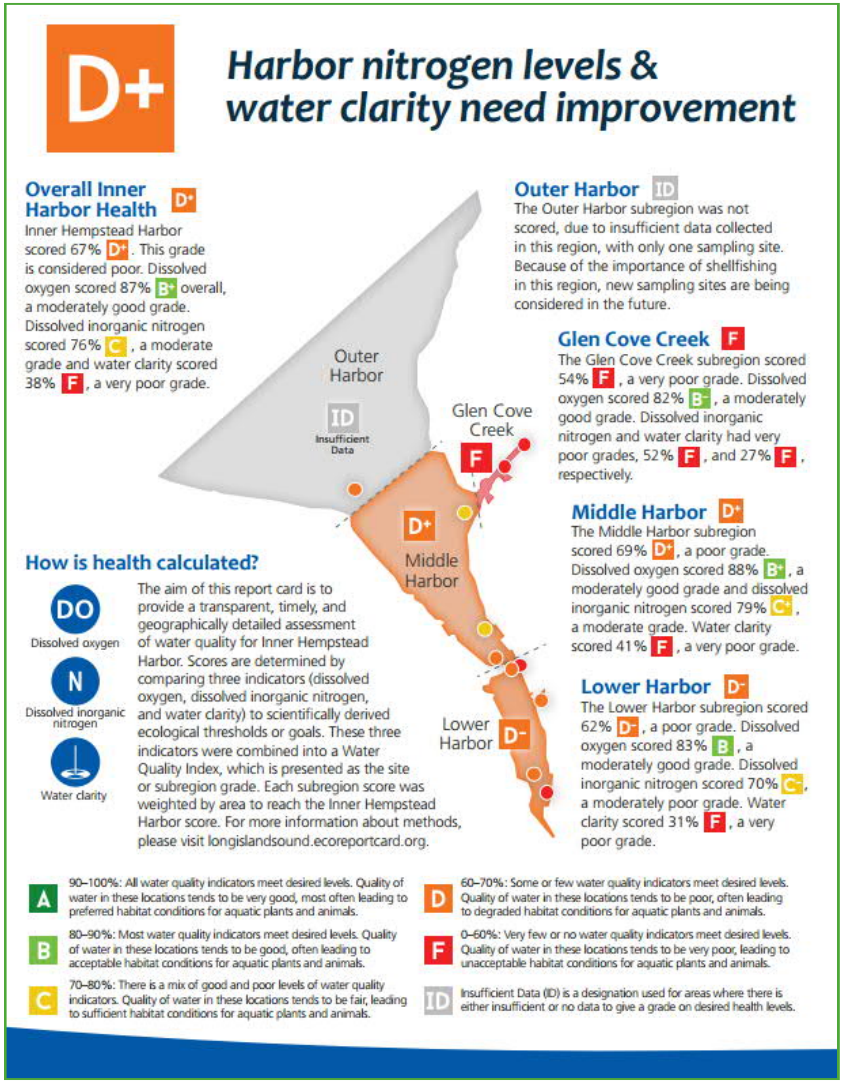
- Monthly sampling April – October
- Approximately 14 stream locations
  - Upstream and downstream of potential sources
  - Bracket and isolate sources of pollution
  - Baseline for future WQ improvements
- Fecal indicator bacteria - E. coli
- Wet and dry weather conditions
- Complement MS4 Permit monitoring and investigations



Water Quality Report Card

- Disseminate information to the public
- Scores determined by comparing water quality indicators to scientifically-derived goals





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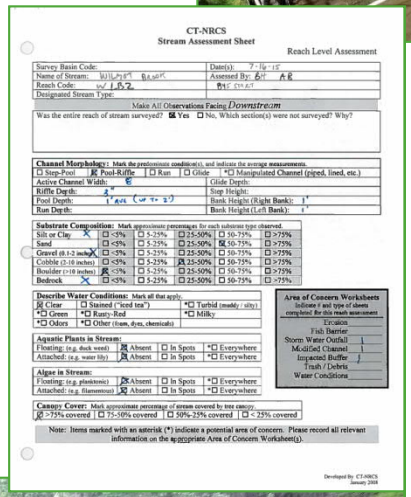
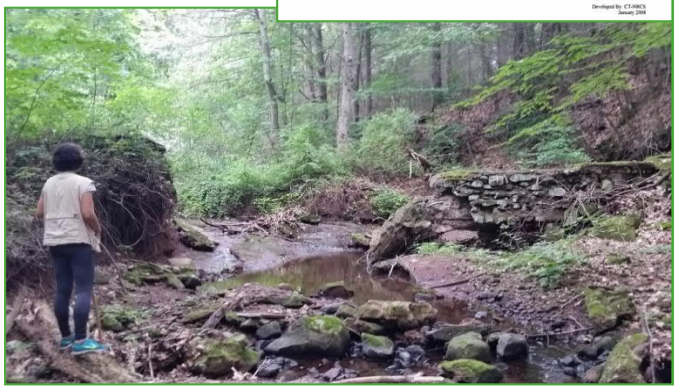
Streamwalks and Track Down Surveys

- Streamwalks last performed in 2010
- NRCS visual stream assessment protocols
- Conduct “track down” surveys of identified pollution sources
- Develop subwatershed action plans for priority subregional basins
  - Pomperaug River
  - Weekeepeemee River
  - Transylvania Brook


CT-NRCS
Stream Assessment Sheet
Reach Level Assessment



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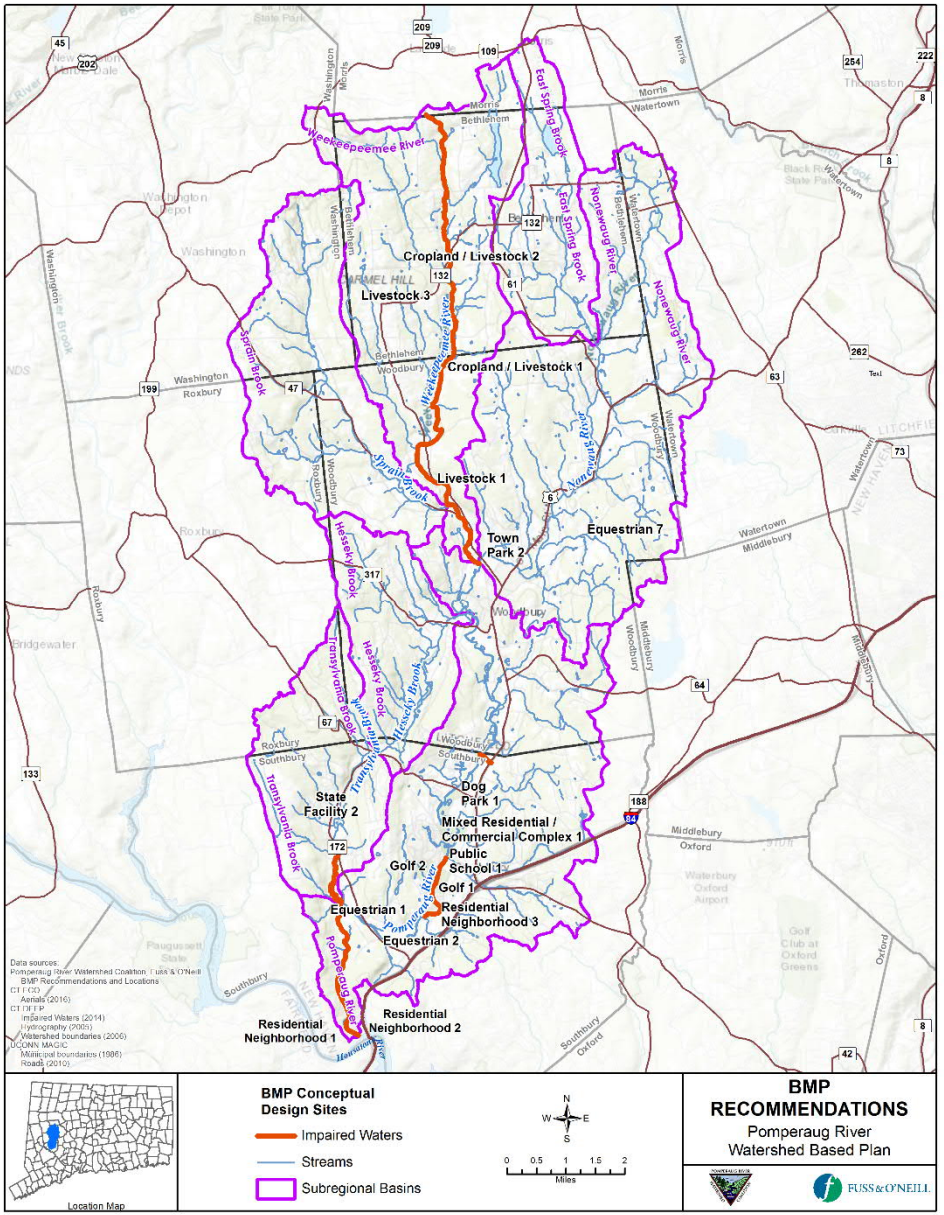
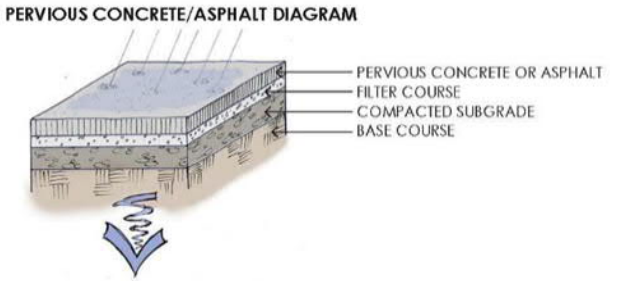
Green Infrastructure and LID

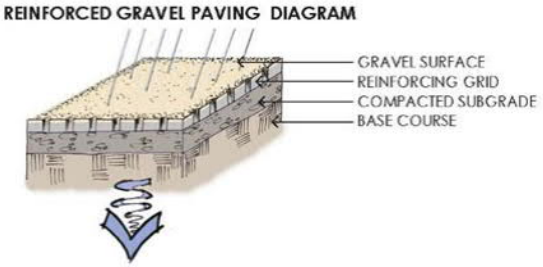
- Many opportunities for GI/LID in the Pomperaug
- Implement GI and LID retrofits on public land
  - Site-specific retrofit concepts
- Require the use of GI and LID for new development and redevelopment (MS4 Permit requirement)

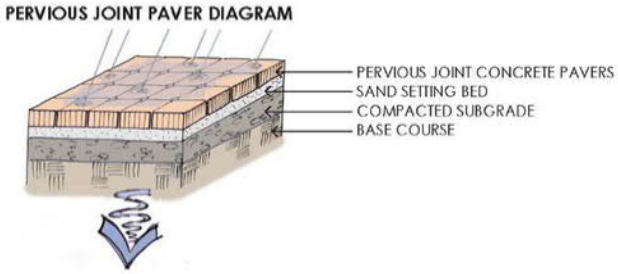


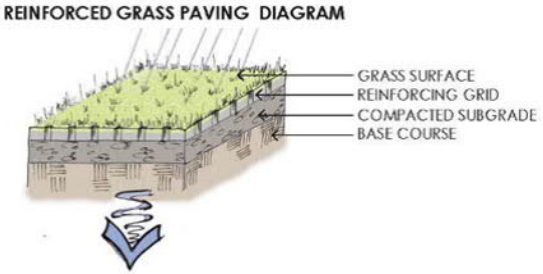
Green Infrastructure and LID

Permeable Pavement

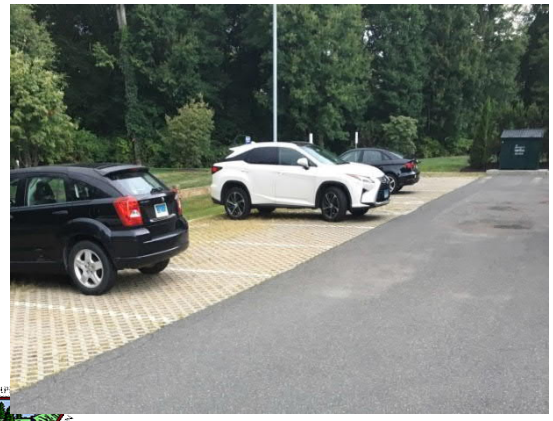


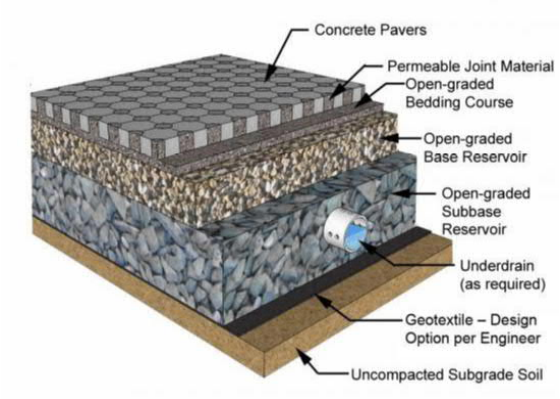






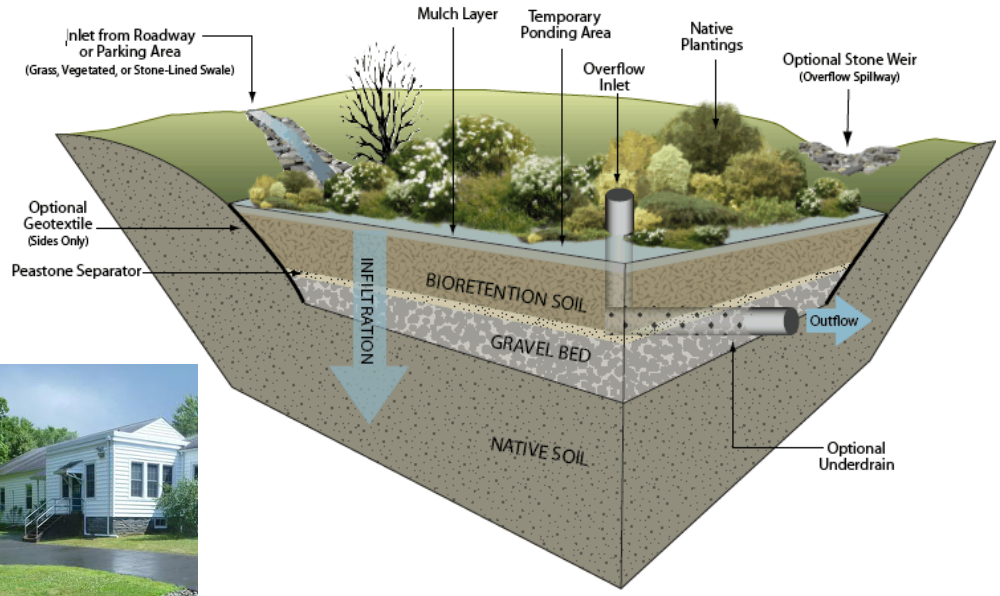
Source: San Mateo County Sustainable Green Streets and Parking Lots Design Guidebook (2009)





Green Infrastructure and LID

Bioretention/Infiltration



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Green Infrastructure and LID

Underground Solutions

- Parking lots
- Public right-of-way

POMPERAUG RIVER WATERSHED COALITION

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Site-Specific BMP Concepts

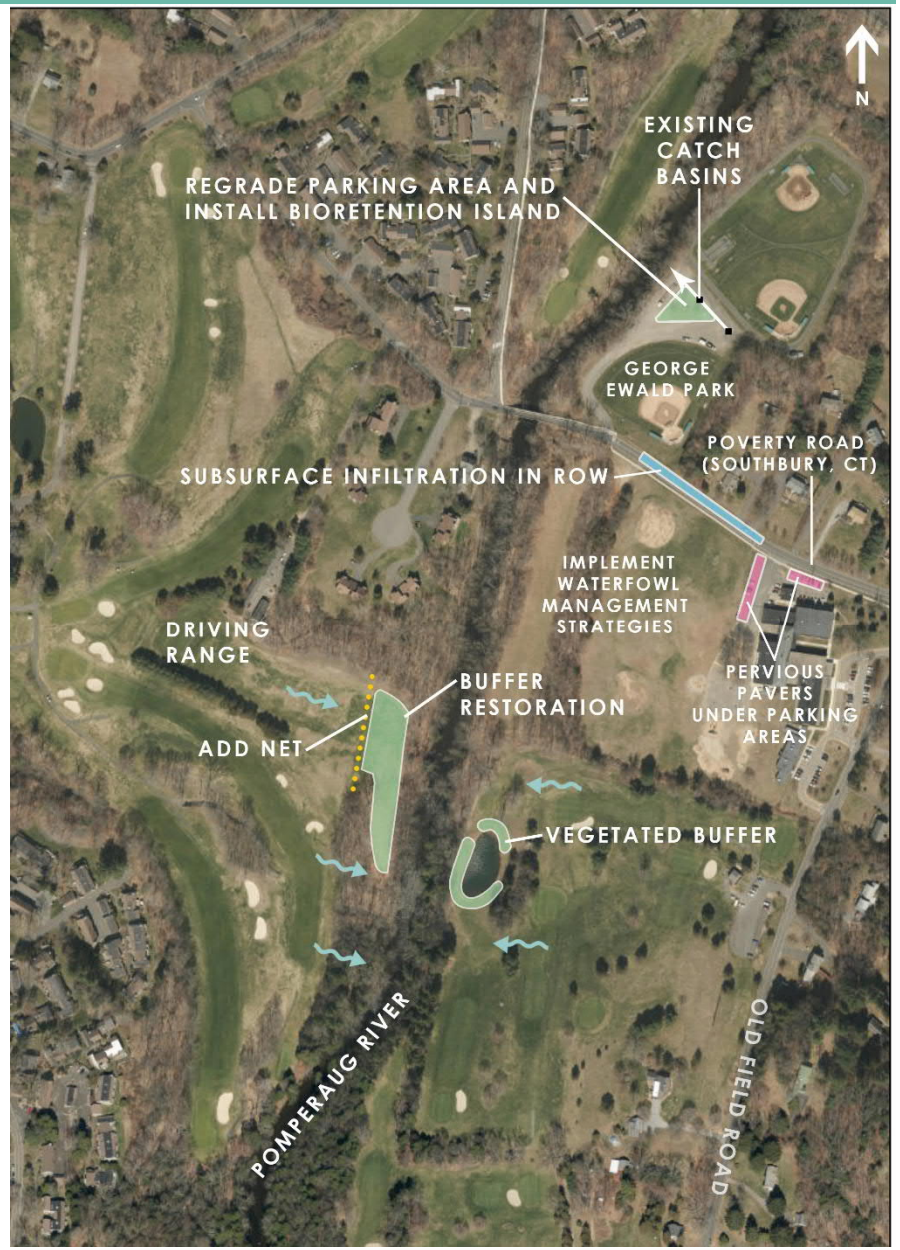
Residential Neighborhood

- Oakdale Road, Southbury
- Lower Pomperaug River
- Estimated Costs:
  - Subsurface Infiltration: $80-170K
  - Infiltration Basins: $50-100K

Site-Specific BMP Concepts

Golf Courses, School, Town Park

- Poverty Road Crossing, Southbury
- Pomperaug River
- Estimated Costs:
  - Bioretention: $26-56K
  - Subsurface Infiltration: $175-375K
  - Permeable Pavement: $13-29K
  - Buffer Restoration: $8-18K



Site-Specific BMP Concepts

Mixed Residential/Commercial

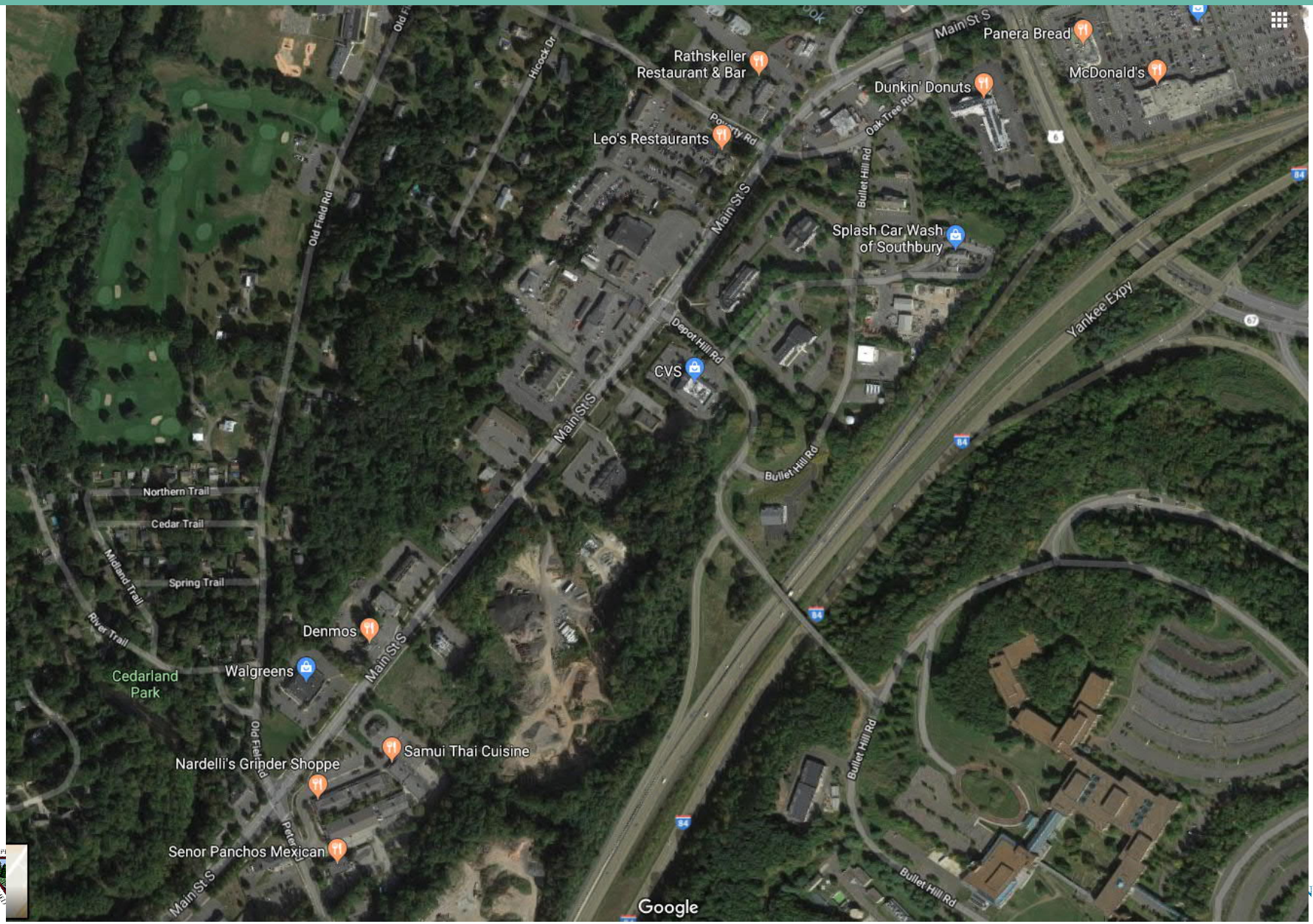
- Heritage Village, Southbury
- Pomperaug River
- Significant opportunities, GI/LID retrofit master planning
- Estimated Costs:
  - Bioretention: $29-63K
  - Subsurface Infiltration: $100-210K
  - Infiltration Basins: $170-360K
  - Water Quality Swale: $16-35K
  - Permeable Pavement: $110-240K

Site-Specific BMP Concepts

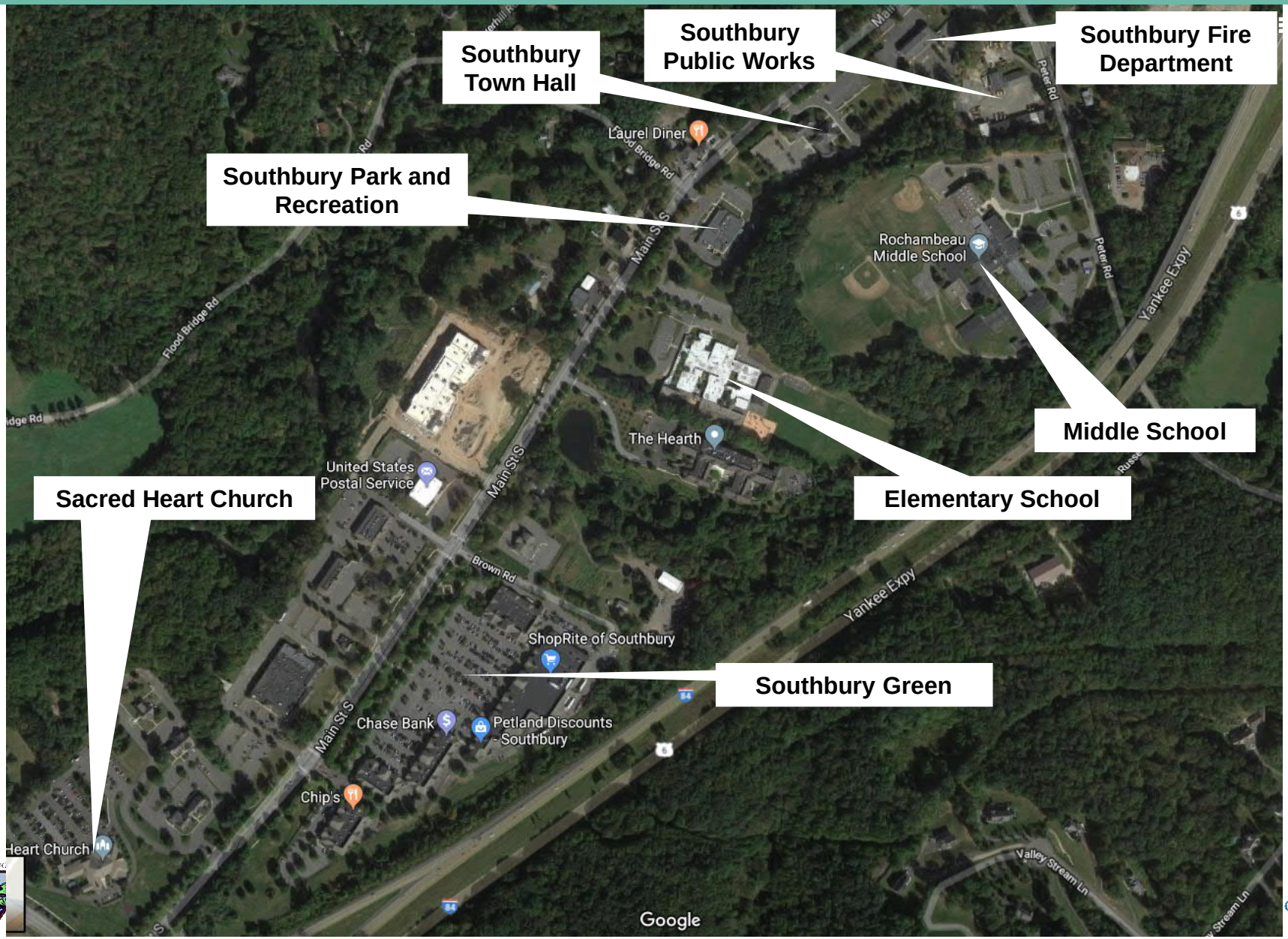
State Facility

- Southbury Training School, Southbury
- Transylvania Brook
- Incorporate GI/LID into potential future reuse or redevelopment plans
- Estimated Costs:
  - Permeable Pavement: $170-360K
  - Bioretention: $155-230K
  - Water Quality Swales: $60-130K
  - Buffer Restoration: $12-26K

Main Street South Corridor – North



Main Street South Corridor – South



Homeowner BMPs

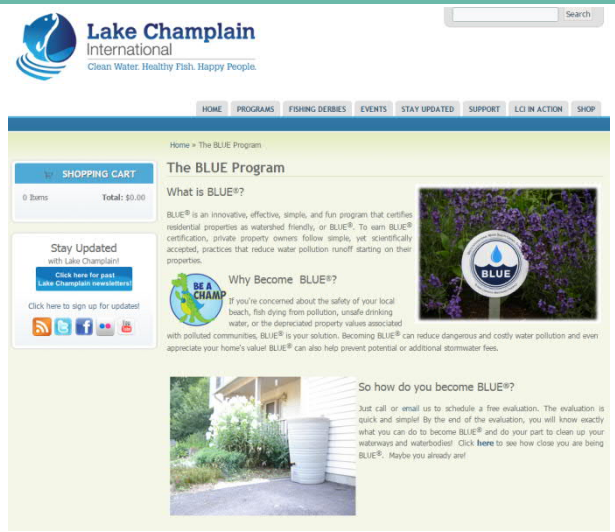
- Promote residential BMPs by homeowners, including River Smart practices
- Encourage disconnection of rooftop runoff
  - Redirect roof leaders to lawn areas and through the use of dry wells, rain barrels or rain gardens

Reroute your downspout so your yard or rain garden absorbs and filters the runoff from your roof.

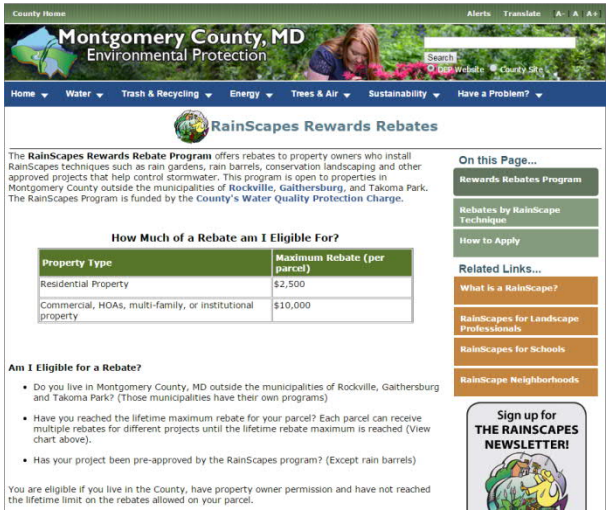
Disconnecting your downspout is a simple and effective way of reducing stormwater runoff. (Photo from grandbuilding.ca)

Homeowner BMP Incentive Programs

- River Smart “Pledge”
- Other Incentive Programs
  - Stormwater Fee Discounts or Credits
  - Rebates and Installation Financing
  - Workshop and Give-Away Programs
  - Certification and Recognition Programs
  - Municipal sponsored public workshops



Lake Champlain BLUE® Certification Program



Montgomery County, MD Rainscapes Rewards

Municipal Stormwater – MS4 Permits

- Municipal Separate Storm Sewer System (MS4) Permits
  - Southbury and Woodbury (effective July 2017)
  - CTDOT (effective July 2019)
- Regulates the quality of stormwater discharges

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Municipal Stormwater – MS4 Permits

Some overlap between Watershed Based Plan and MS4 permit

- Southbury and Woodbury – continue to implement MS4 Stormwater Management Programs
- PRWC – review and comment on draft CTDOT Stormwater Management Plan
- PRWC – work collaboratively with Southbury, Woodbury, and CTDOT
  - MS4 Stormwater Program Implementation
  - Coordinate PRWC water quality monitoring with MS4 outfall monitoring
- NVCOG exploring possibility of providing regional MS4 training

Illicit Discharge Detection and Elimination (IDDE)

- Requirements for MS4 regulated communities
- Implement IDDE Programs
  - Southbury, Woodbury, CTDOT
- Focus on "Priority Areas"
  - Discharges to impaired rivers/streams
  - Area with high amounts of impervious cover

- Illicit discharges can have a big impact on water quality
- IDDE is more cost-effective than structural stormwater treatment
- IDDE is the "low-hanging fruit"

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Subsurface Sewage Disposal Systems

Failing or sub-standard septic systems can impact surface and groundwater quality

- Inventory, map, and prioritize State-regulated systems in the watershed
- Encourage regular maintenance by homeowners
- Consider changes to state/local requirements, point-of-sale inspections and upgrades

Septic Systems

- Small systems (<2,000 GPD) regulated by local health districts
- Medium systems (2,000-7,500 GPD) reviewed and approved by CTDPH
- Large systems (>7,500 GPD) regulated by CTDEEP

Source: PDDH

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Stream Buffers

Naturally vegetated areas adjacent to streams, ponds, and wetlands

- Encourage “backyard” buffers
- Implement priority buffer restoration projects on public land
- Include incentives and/or requirements for stream buffers in future land use regulation updates (MS4 Permit)

Benefits of Stream Buffers

- Promotes infiltration of runoff
- Filters pollutants
- Regulates stream water temperature
- Provides habitat for plants and animals

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Site-Specific BMP Concepts

Dog Park

- Pomperaug River, Southbury
- Buffer Restoration, Parking Lot Stormwater Retrofit, Pet Waste Station
- Estimated Costs
  - Buffer Restoration: $3-6K
  - Infiltration Basin: $20-40K

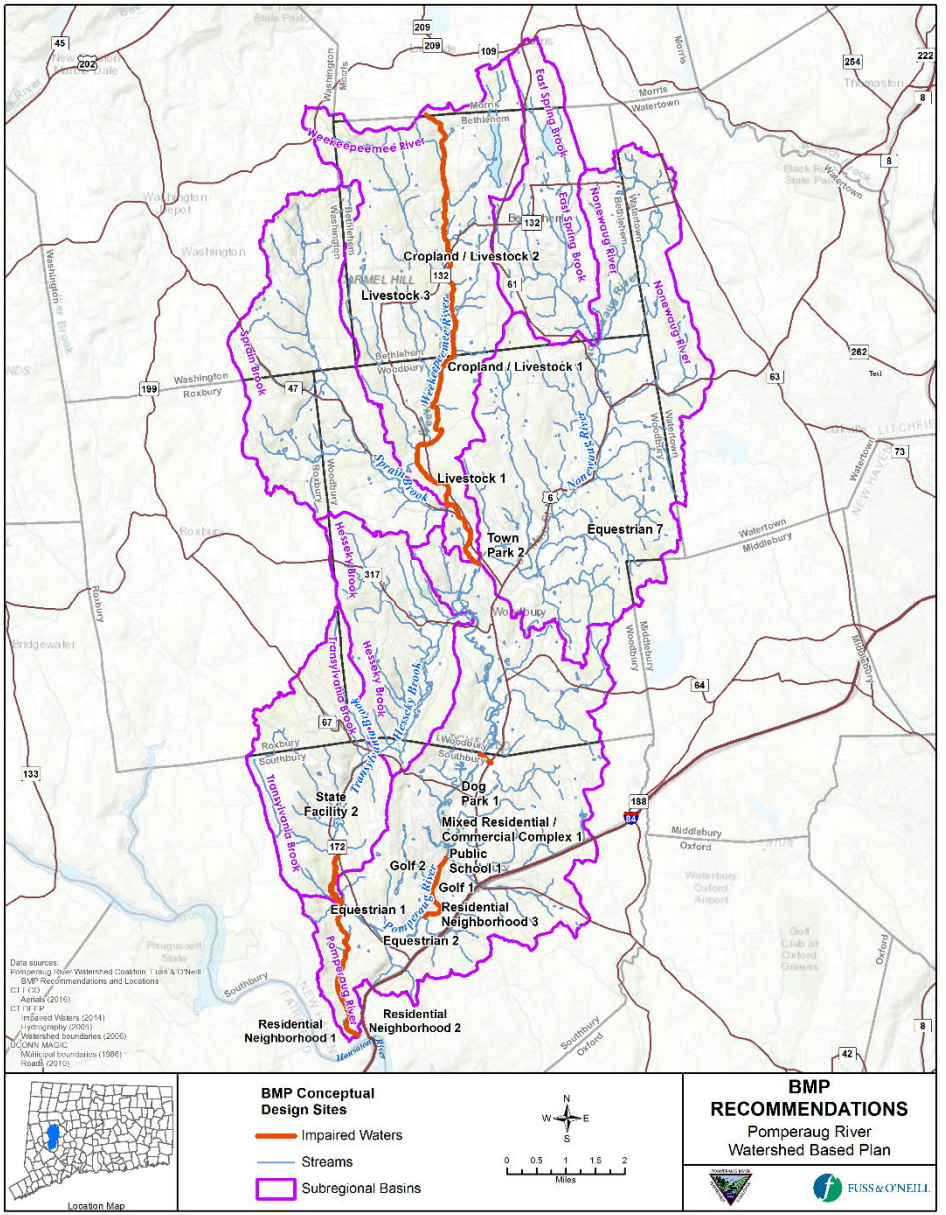
Site-Specific BMP Concepts

Town Park

- Weekeepeemee, Nonnewaug, & Pomperaug Rivers, Woodbury
- Buffer Restoration, Parking Reconfiguration, Additional Pet Waste Disposal along Trail
- Buffer restoration explored in 2010 Yale study
- Estimated Costs
  - Buffer Restoration: $40-90K
  - Jacks Bridge Rd. to Judson Ave.

Agricultural BMPs

- Agricultural operations can be a source of pollutants to surface waters and groundwater
- Partner with equestrian and livestock facilities
- Focus on pastures as well as paddocks, barns, and storage areas
- Potential Agricultural BMPs
  - Vegetated buffers, filter strips
  - Livestock exclusion fencing
  - Manure collection and storage
  - Filter berms
- Site-specific retrofit concepts →



Agricultural BMPs

Manure/Nutrient Management

- Manure piles, paddock areas
- Locate manure storage areas and paddocks away from streams, cover manure piles where possible

Agricultural BMPs

Vegetated Buffers, Filter Strips, Exclusion Fencing

- Many farms located close to streams or have streams flowing through them
- Livestock access to streams
- Drainage channels flowing through paddock areas

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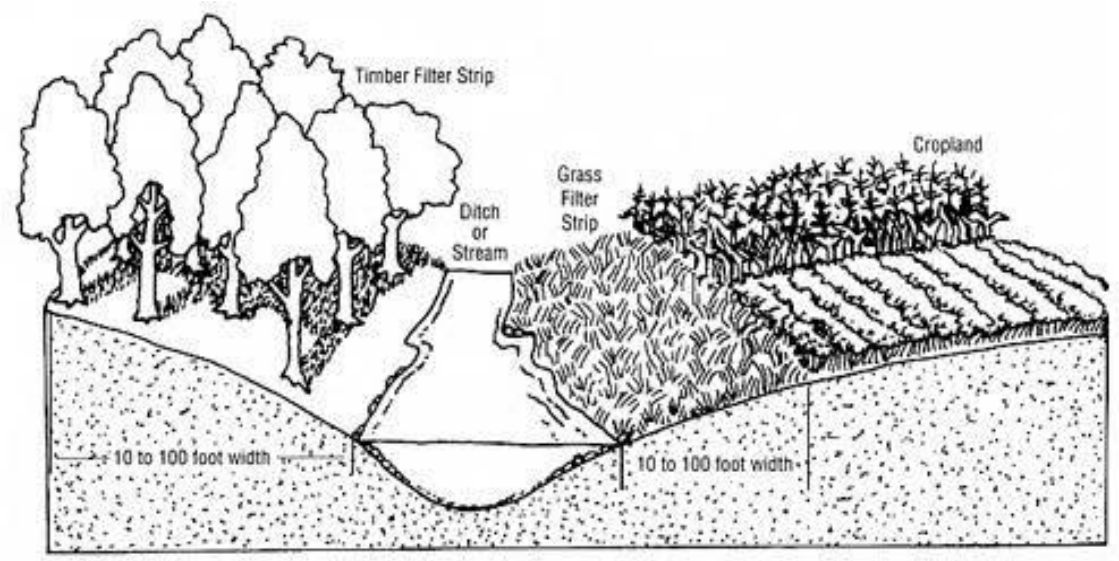
Agricultural BMPs

Vegetated Buffers, Filter Strips, Exclusion Fencing



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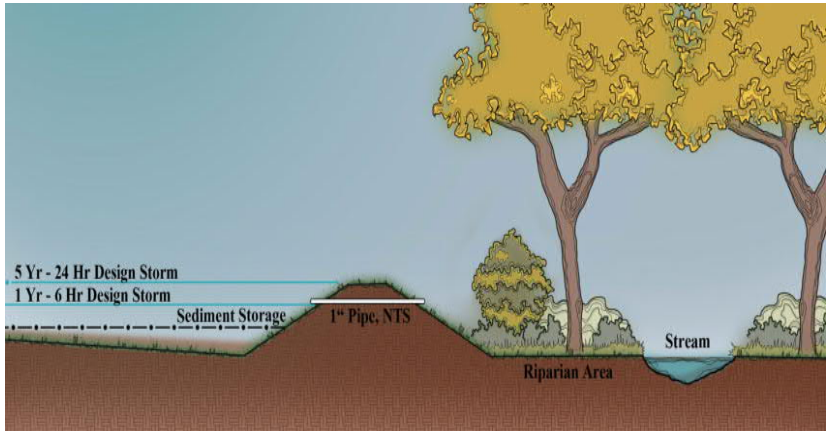
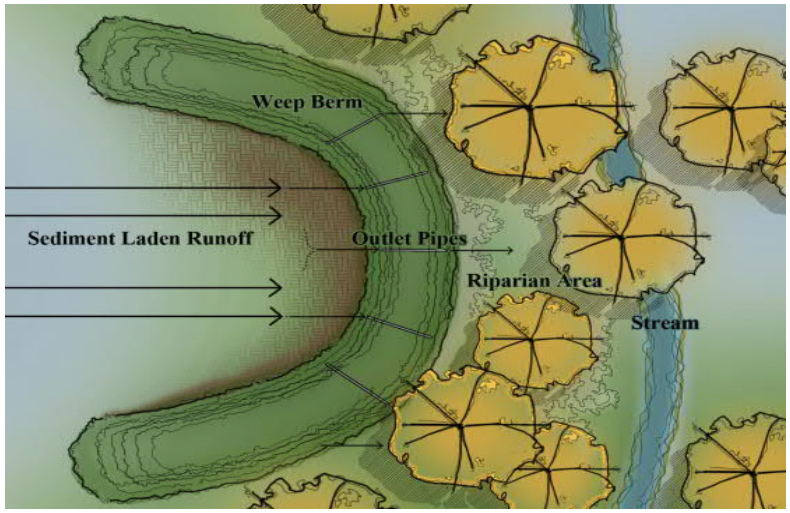
Agricultural BMPs

Filter Berms

- Gravel or compost berm placed at downgradient edge of field, manure storage and composting facilities, and livestock areas
- Filter runoff and enhance infiltration





Site-Specific BMP Concepts

Livestock Farm, Bethlehem

- Dowd Brook, Tributary to Weekeepeemee River
- Buffer Restoration and Paddock Reconfiguration
- Optional Filter Berm
- Estimated Costs
  - $30-70K

Site-Specific BMP Concepts

Livestock Farm, Woodbury

- Weekeepeemee River
- Buffer Restoration, Exclusion Fencing
- Estimated Costs
  - $25-55K

Site-Specific BMP Concepts

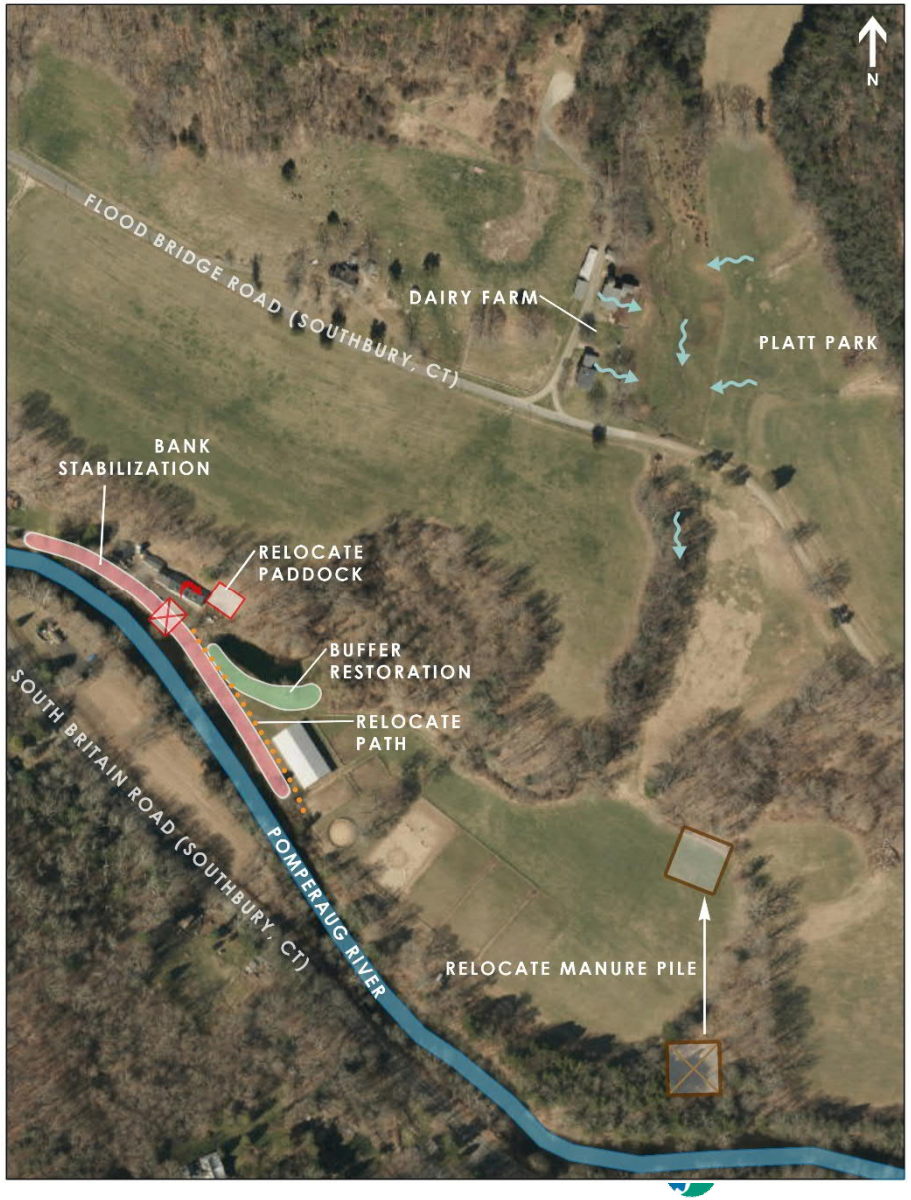
Equestrian Facility, Southbury

- Transylvania Brook and Pomperaug River near Audubon Center at Bent of the River
- Buffer Restoration, Exclusion Fencing/Paddock Reconfiguration
- Estimated Costs
  - $40-60K

Site-Specific BMP Concepts

Equestrian Facility, Southbury

- Pomperaug River
- Manure Pile Relocation (completed)
- Paddock Relocation
- Buffer Restoration and Bank Stabilization
- Estimated Costs
  - $50-100K



Comments on Draft Plan

- Plan will be available for download from PRWC website
- Submit email or written comments to PRWC by September 7:

Carol Haskins, Outreach Director

Pomperaug River Watershed Coalition

39 Sherman Hill Road, Suite 103C, Woodbury, CT 06798

203-263-0076

info@pomperaug.org

Thank you for your input and time!

POMPERAUG RIVER WATERSHED COALITION

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