

Appendix G

Public Participation and Outreach Meetings Pomperaug River Watershed Based Plan

COMMUNITY INFORMATION SESSIONS

Watershed Based Plan Project Introduction

Meeting with First Selectman of Bethlehem

Date: January 17, 2017

Watershed Based Plan Project Introduction

Joint Land Use Commission Meeting, Town of Woodbury

w/ representatives of Planning, Zoning, Wetlands, Conservation, Historic District Commission, ZBA

Date: January 18, 2017

Updating the Pomperaug Watershed Management Plan

Joint Meeting Inland Wetlands & Conservation Commission, Town of Bethlehem

Date: February 14, 2017

Updating the Pomperaug Watershed Management Plan

Joint Land Use Commission Meeting, Town of Southbury

w/ representatives of Planning, Zoning, Wetlands, Conservation, Public Works

Date: April 4, 2017

Watershed Based Plan Project Update

Joint Land Use Commission Meeting, Town of Woodbury

w/ representatives of Planning, Zoning, Wetlands, Conservation, Historic District Commission, ZBA

Date: January 17, 2018

Public Information Session: Pomperaug Watershed Based Plan*

Woodbury Community

Date: July 17, 2018 (7:00 PM)

Public Information Session: Pomperaug Watershed Based Plan*

Southbury Community

Date: July 18, 2018 (2:00 PM)

Public Information Session: Pomperaug Watershed Based Plan*

Bethlehem Community

Date: July 18, 2018 (6:30 PM)

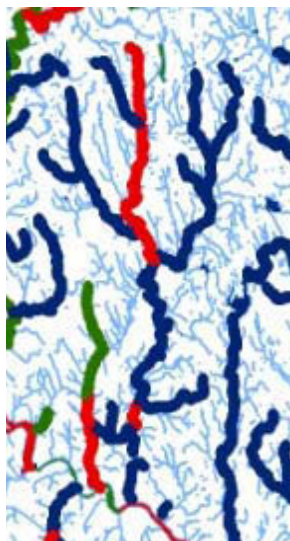


POMPERAUG WATERSHED BASED PLAN

VISION STATEMENT & GOALS

PRWC's vision is that this Plan will be used as a road map to return impaired waters to swimmable and fishable conditions and that this document will be used as a guide to evaluate changes through time. PRWC's goal for the Pomperaug Watershed Based Plan is develop a document that:

- establishes an up-to-date baseline of conditions in the watershed;
- evaluates contributing causes of known water quality impairments;
- identifies water quality monitoring needs;
- identifies and prioritizes steps to reduce pollutant inputs to impaired rivers and streams;
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- establishes community buy-in through public engagement in the planning and implementation process.



Pomperaug Recreational Impairments
due to elevated bacteria levels:

Weekeepeemee River (entire)
Pomperaug River (2 segments)
Transylvania Brook (lower section)

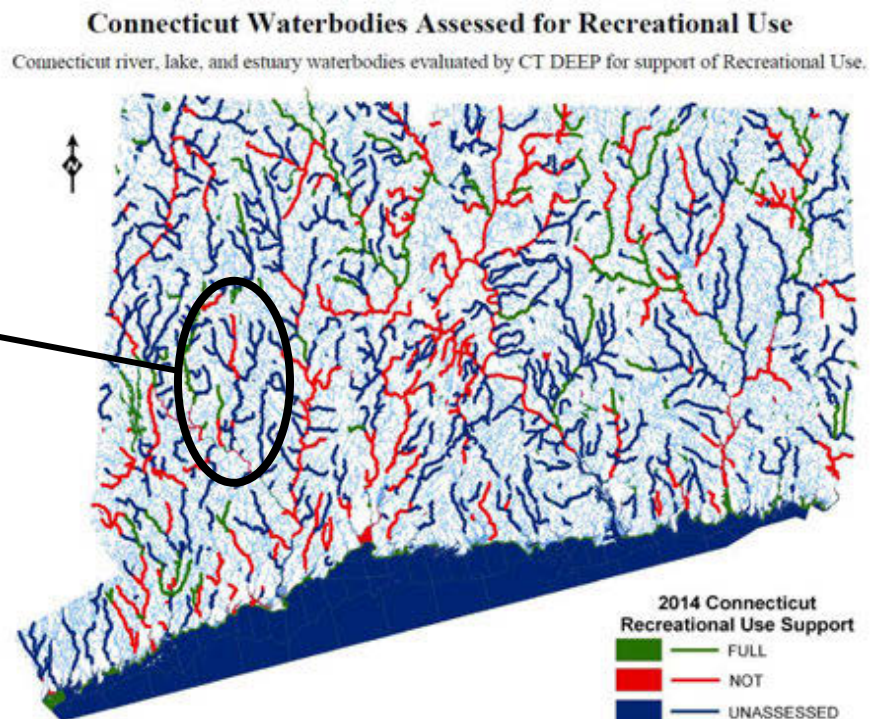
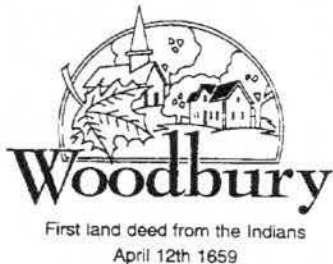


Figure 2-6. Waterbody segments assessed for Recreational Use Support (REC)



TOWN OF WOODBURY

Selectmen's Office

281 Main Street South
Woodbury, Connecticut 06798

TELEPHONE: (203) 263-2141
FAX: (203) 263-4755

Board of Selectmen Annual Joint Land Use Meeting
Wednesday, January 18, 2017
7:00 p.m.
Senior/Community Center

AGENDA

1. Call to Order
2. Introduction - First Selectman Bill Butterly
3. Guest Speaker – Sean Hayden, Executive Director,
Northwest Conservation District

Discussion of a Low Impact Development (LID) Design Manual for the Town of Woodbury to guide the land use office, municipal commissions, and the design/build community to create more sustainable projects in town. Meeting attendees will be introduced to the steps needed to create and implement the LID Manual.

4. Carol Haskins, Pomperaug River Watershed Coalition - Update on
Watershed Management Plan
5. Brief Overview of Successes and Challenges – Commission Chairs or their
Designees
 - a. Planning Commission
 - b. Zoning Commission
 - c. Inland Wetlands & Watercourses Agency
 - d. Zoning Board of Appeals
 - e. Historic District Commission
 - f. Conservation Commission
6. Introduction of Woodbury Town Planner – Mr. Butterly
(Please stay for light refreshments following adjournment)
7. Adjournment

Respectfully Submitted,

Debra W. Carlton
Assistant to the First Selectman

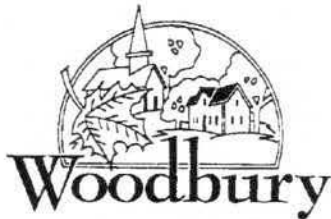
RECEIVED & FILED
IN WOODBURY, CT

This 17th day of Jan 2017
at 9:58 o'clock A M

Town Clerk

TOWN OF WOODBURY

281 Main Street South
Woodbury, Connecticut 06798-0369



First land deed from the Indians
April 12th 1659

Board of Selectmen Joint Land Use Meeting

Wednesday, January 18, 2017 ♦ 7:00 p.m.

Senior/Community Center

MINUTES

Present: First Selectman Butterly, Maryellen Edwards, Sean Hayden, Carol Haskins, Len DeJong, Various Members of the Land Use Boards/Commissions/Agencies, Members of the Public and Press

Call to Order

First Selectman William Butterly convened the meeting at 7:05 p.m.

Introduction – First Selectman

First Selectman Butterly introduced Maryellen Edwards, the new Town Planner. He briefly mentioned the upcoming permitting software. He expressed his desire to have clerks keep track of the digital recorder times on each application to make it easier to find applications when listening to recordings. He stated that the “Sherwood Property” has not been approved; the BOS is sending it to the Conservation Commission for comment. Mr. Butterly suggested that the Zoning Commission post-pone their meeting on the Regulation Changes.

Guest Speaker – Sean Hayden, Executive Director, Northwest Conservation District

Mr. Hayden discussed the concept of creating a Low Impact Development (LID) Design Manual for the Town of Woodbury to guide the Land Use office, Town commissions, and the design/build community to create more sustainable projects in Town. An example of a LID project was shown for the Town of Morris. LID is a way to develop land working with it, not against it. There are concerns over the water supply; this is a protective measure for the water supply. He described the process as a giant filter; water is moved at the surface. There’s no downside to implementing LID, including cost. He handed out a conceptual LID manual to the Chairmen of certain commissions to review. Mr. Hayden has a grant to get a design manual specific for Woodbury. Regulations do not need to change; this manual can be attached to the regulations as a “living document.” The design manual meshes with the regulations, it does not conflict with them. There are about 4-5 towns in Connecticut that have a manual including Guilford, Tolland, Granby Plainville and Harwington. It was noted that this can be applied to the MS4 permit, addressing some of those requirements.

Guest Speaker - Carol Haskins, Pomperaug River Watershed Coalition

Ms. Haskins discussed the PRWC Watershed Management Plan and their goals. This plan will be used as a guide to evaluate changes through time. It includes establishing current conditions in the watershed, evaluating contributing causes of known water quality impairments, identifying monitoring needs, prioritizing steps to reduce pollutant inputs to waterways, incorporating measures to protect and maintain high quality streams and establishing community involvement. Land Use commissions can have an important role in developing the plan by sharing their knowledge of and assisting in identifying potential sources related to stream impairments. They can help with the prioritization of best management practices to implement, when and by whom. They can get the public together for informational sessions. Commissions can also communicate directly with the Pomperaug River Watershed Coalition and proactively pass information related to concerning sites for the inclusion in visual assessment surveys.

Brief Overview of Successes and Challenges – Commission Chairs (or designees):

Planning Commission – *Mary Connolly*: The Planning Commission is currently working on redoing the POCD, which needs to be done by 2020. They are hoping to tie into the AIA/SDAT plan and have asked to include funding for the upcoming budget.

Zoning Commission – *Bob Clarke*: The Zoning Commission is continuing revision of the regulations and will continue to do so.

Inland Wetlands & Watercourses Agency – *Mary Tyrrell*: Thanked the Board members. She noted that they are the first Board people have to go to. The Agency tries to educate applicants with regards to the wetlands. Sean Hayden was thanked for his extra help on recent applications.

Historic District Commission – *Susan Cheatham*: The Historic District Commission has worked on regulations. One was to change the responsibility for sending abutter notifications and the other being the COG maps to replace the text description of the boundaries. They are still concerned with the conditions of the Telephone Company Buildings. They issued a Cease & Desist for 76 Main Street South for not applying for a Certificate of Appropriateness. They are working on recommendations from the SDAT committee, specifically looking at the Bicentennial Green. The Commission presented three Historic Preservation Awards this year. Ms. Cheatham reminded everyone that the purpose of the Historic District Commission is “promoting the educational, cultural, economic and general welfare of the public through the preservation and protection of buildings, places and districts of historic interest by the maintenance of such landmarks in the history of architecture of the town, state or nation; and through the promotion and development of appropriate settings for such buildings, places and districts.”

Conservation Commission – *David Taylor*: The Conservation Commission promotes and encourages conservation activities. They are a bit of a “conscience” to the Board of Selectmen and other groups. They participated with the Trolley Bed Committee, continue to hold Town Wide Clean Up days and participated in the Earth Day Celebration. They will be contributing to the POCD and hope to promote LID. Woodbury has 14% of protected Open Space, State Guidelines state it should be 23%, they are looking at ways to increase this percentage. They have also found that some properties they thought were protected are not.

Zoning Board of Appeals – *Michael Novak*: The ZBA had 7 Variance Requests and 2 Special Exceptions for Change of Use and all applications were approved. He thanked his Board and their dedication to look for the best possible solutions, which is challenging when it comes to determining hardships. They try to look past the “self-imposed hardship,” where they can simply say you could choose not to do it. They’ve had to determine if applications are in harmony with the neighborhood and challenges with regards signage. He ended by stating that he thinks the Main Street Design Exception for Variances is in conflict with the Connecticut General Statutes.

First Selectman Butterly thanked everyone for coming and ended the meeting at 8:25 p.m.

Respectfully submitted,

Anne Firlings
Administrative Assistant, Land Use Office

RECEIVED & FILED
IN WOODBURY, CT
This 24th day of Jan 2017
at 10:45 o'clock A M
Suzanne Cooper
TOWN CLERK



POMPERAUG WATERSHED BASED PLAN

VISION STATEMENT & GOALS

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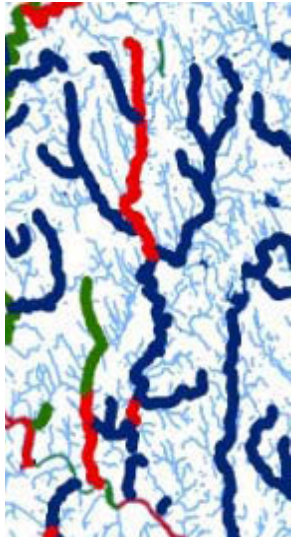
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WHAT ROLE DO TOWN LAND USE COMMISSIONS SERVE IN THE PLAN DEVELOPMENT PROCESS?

- Share local land use knowledge and observations (priority: impaired stream areas)
- Identify potential sources related to stream impairments
- Help convene residents at public informational forums
- Identify sites for best practices to be implemented
- Help prioritize what BMP's to implement, when, and by whom
- Pass along information to PRWC related to sites of concern for inclusion in visual assessment surveys (priority on impaired streams):

Contact: Carol Haskins, Outreach Director, at chaskins@pomperaug.org or 203-263-0076

WHAT / WHERE ARE OUR LOCALLY IMPAIRED STREAM SEGMENTS?



Pomperaug Recreational Impairments

due to elevated bacteria levels:

- Weekeepeemee River (entire)
- Pomperaug River (2 segments)
- Transylvania Brook (lower section)

Connecticut Waterbodies Assessed for Recreational Use

Connecticut river, lake, and estuary waterbodies evaluated by CT DEEP for support of Recreational Use.

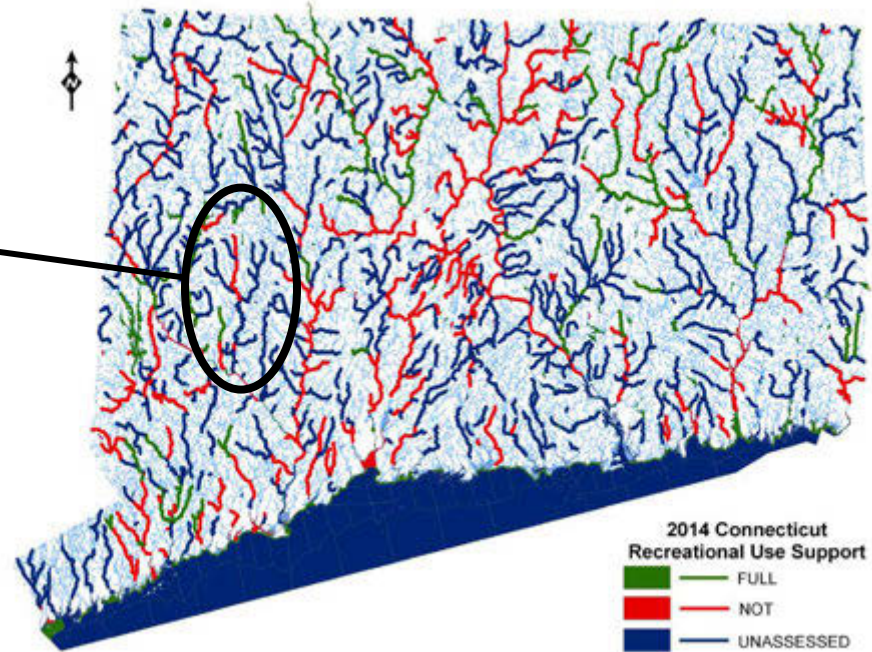
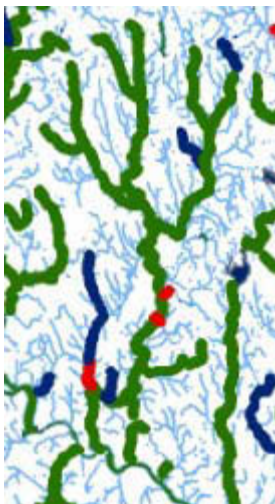


Figure 2-6. Waterbody segments assessed for Recreational Use Support (REC)



Pomperaug Aquatic Life Use Impairments

due to flow regime alteration:

- Stiles Brook (below dam)
- South Brook (previously listed)

Due to ammonia, chlorine, copper, zinc:

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Connecticut Waterbodies Assessed for Aquatic Life Use

Connecticut river, lake, and estuary waterbodies evaluated by CT DEEP for support of Aquatic Life Use.

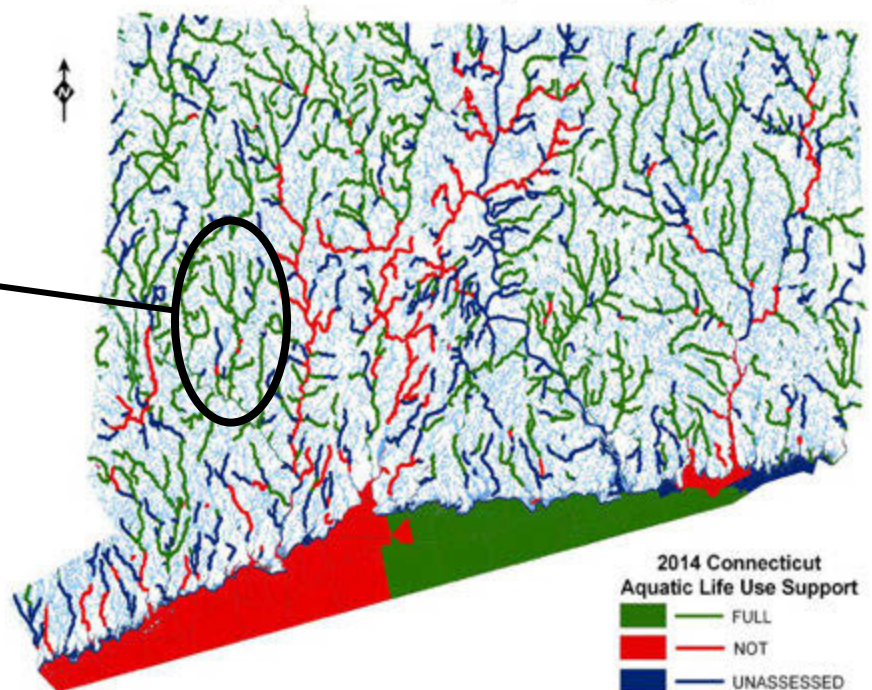


Figure 2-2. Waterbody segments assessed for Aquatic Life Use Support (ALUS)

BETHLEHEM CONSERVATION COMMISSION

Tuesday, February 14, 2017

7:00 pm, Leever Room

Members Present: Cassandra Beauvais, Jane Pittari, Nancy Stein, Trish Traver (Acting Chair). Guests Carol Haskins and Vince McDermott of the PRWC

Meeting call to order: 7:10 pm

Joint Meeting with PRWC: The Pomperaug River Watershed Coalition presented a project they are undertaking. They want the input of the Conservation Commission and Inland Wetlands on areas in Bethlehem that might be of concern for water conditions for swimming and fishing, drainage, erosion, septic issues, drought, runoff and other issues. They have a grant to identify, test, establish baselines and work on remediation for the watershed areas. They will also have a work crew funded by the CT Community Foundation available for projects we can suggest – boardwalk, tree removal, invasive removal, etc. Their presentation ended at 8 pm and we continued with our regular meeting.

Review of Previous Minutes: NS moved to accept the January minutes. CB 2nd d. Motion passed.

Treasurer's Report: The \$1000 was finally sent to PRWC. We have \$1369.41. NS moved to approve the treasurer's report. CB 2nd d. Motion passed.

Budget – Boff Letter: TT will put together a letter for our budget request to get it in by Feb. 24.

Website update: TT still waiting for pic from Bethlehem Fair Garden. We will firm up more dates for our spring programs to put on the website and look for other sites we can get our link on.

Weird Email: We deleted the weird email sent to our town email address without opening it.

Garlic Festival Application: We'll decide at the next meeting whether we're able to commit to attending this year.

Swendsen Farm / Community Garden: We will get together on March 1 at TT's to brainstorm about future possibilities for the Swendsen Preserve.

We have scheduled as part of our spring programs a ravine trail walk on May 13th at 10am. CB will look into scheduling the migratory spring bird walk. Perhaps a weekday evening or Saturday or Sunday in May. She will check the guide's availability.

JP moved to pay all expenditures by the Garden. CB 2nd d. Motion passed.

Library Programs: We are scheduled for April 17th with Nora Hulton. JP will check what her fee is. CB will check with the library to see if April 24 is open for the Climate

Reality talk. Then JP will confirm with the presenter about that night. CB will check to see if the library is available for the movie (whichever Dirt one we decide on) on May 1.

Land Use Guide edit and reprint: TT is finishing up corrections. She will look up what it cost to print the last one.

NS moved to adjourn, CB 2ndd. Motion passed. Meeting adjourned at 9:20 pm.

Respectfully submitted,

Jane Pittari, Secretary


NEXT MEETING Tuesday, March 14, 2017

Trish Traver will be the acting chair for the February meeting.
We should have our agenda in by the Thursday before the meeting.

Committee Chair Schedule for 2017: **Jan & Feb/C.Rabinowitz**, **Mar & Apr/T.Traver**, **May & June/N.Stein**, **July & Aug/J.Pittari**, **Sept & Oct/N.Carey**, SEPT&OCT WE NEED TO DO CACIWC **Nov WE NEED TO DO ANNUAL REPORT & Dec/C.Beauvais**

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2017 FEB 15 A 9:17

ATTEST 
TOWN CLERK OF BETHLEHEM



Updating the Pomperaug Watershed Management Plan*

Town of Bethlehem
Inland Wetlands and Conservation Commission Joint Meeting
Tuesday February 14, 2017

Carol Haskins, Outreach Director
Pomperaug River Watershed Coalition

** 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.*

SCIENCE



Science is our first priority. We carry out studies that examine the river water, the groundwater, and the landscape to better understand and steward the health of our watershed. We want to ensure that our rivers, streams, and aquifer will be a trusted drinking water source, a vital habitat for aquatic wildlife, and a vibrant recreational resource for generations.

THE POMPERAUG RIVER WATERSHED: A TREASURE IN OUR MIDST.

What is a watershed?

It is all the water in our rivers, streams, lakes, wetlands and underground aquifers. It is also the landscape that surrounds these waters.



A watershed is the land that stretches from water's edge to the tops of nearby hills. Rain that falls here is either absorbed into the ground, replenishing the aquifer, or flows downhill as runoff until it reaches a river, stream, lake, or wetland.

The Pomperaug River Watershed is a 90-square mile watershed that drains to the Housatonic River Watershed in western Connecticut and that has geology mimicking the Connecticut River Watershed.



EDUCATION



Education is an essential service to our community.

We teach school children about the way and wonder of the watershed. We also teach our neighbors how they can protect this precious resource we all share. We provide information to governments and businesses that make critical decisions about how communities use our water.

Your stewardship matters!

Learn more about the watershed.
Become a Member. Make a donation.
Volunteer to help. Like us on Facebook.



For more information:

(203) 263-0076

www.pomperaug.org

39 Sherman Hill Rd, Woodbury, CT



PRWC Team

Board of Directors

Vincent McDermott, Chair
Joseph Eisenberg, Vice-Chair
Gail McTaggart, Vice-Chair
John Lacadie, Treas. & Sec.
Marianne Bette
Christopher Wood
J. Lawrence Pond - *Emeritus*

Anne Delo
Ann Merriam Feinberg
Frederick R. Leavenworth
Frank Sherer, Jr.
Dan Slywka

Staff

Len DeJong, Executive Director
Carol Haskins, Outreach Director
Anne Urkawich, Manager of Administration & Development

Advisory Council

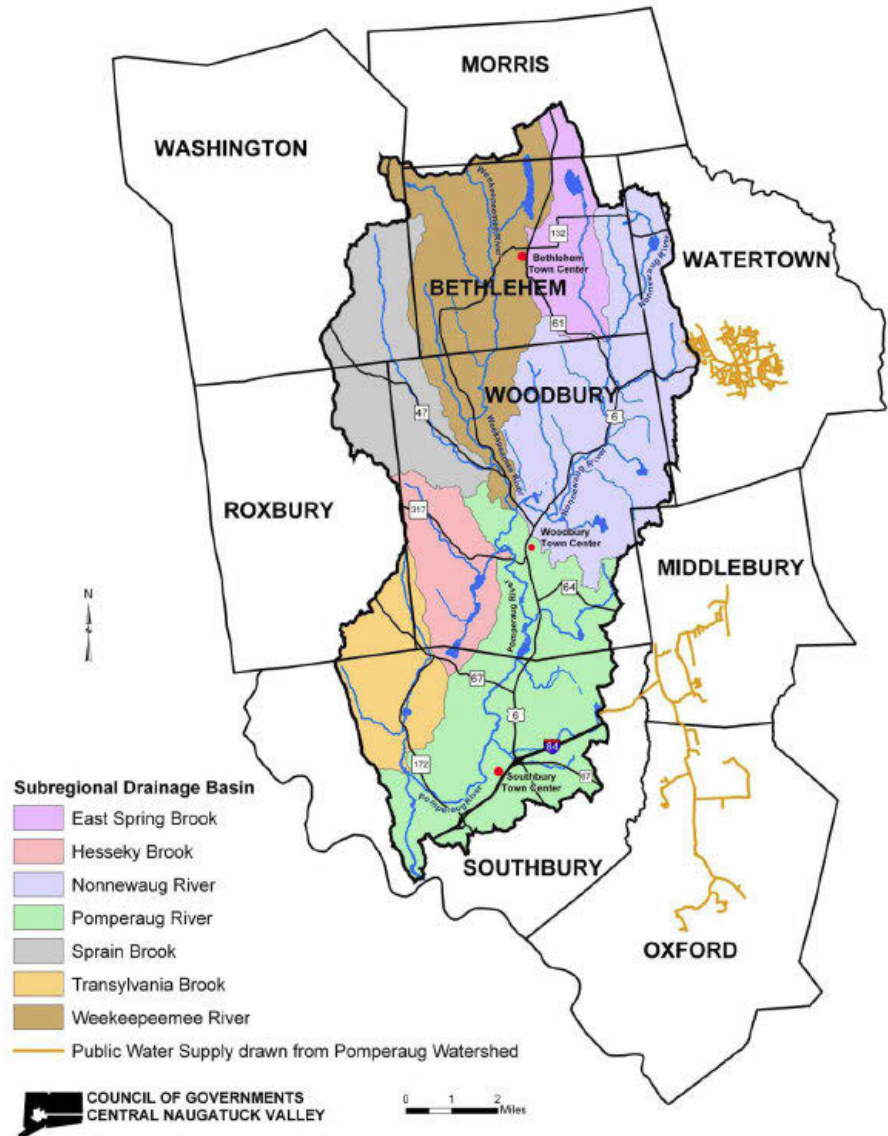
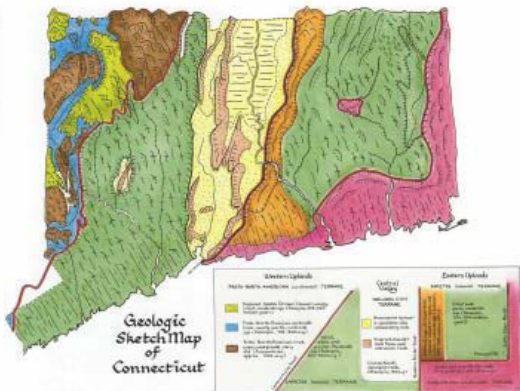
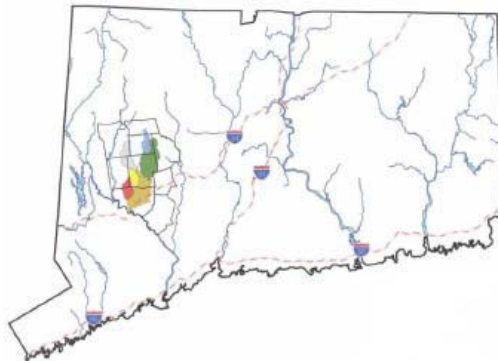
Barbara Ajello
Leslie Kane
Justin Bette
Neal Lustig
David Bjerklie
Susan Peterson
Aaron Budris

Karen Reddington-Hughes
DeLoris Curtis
Bob Travers
Kenneth Faroni
Kyle Turoczi
Karen A. Huber
Anne Westerman

Volunteers

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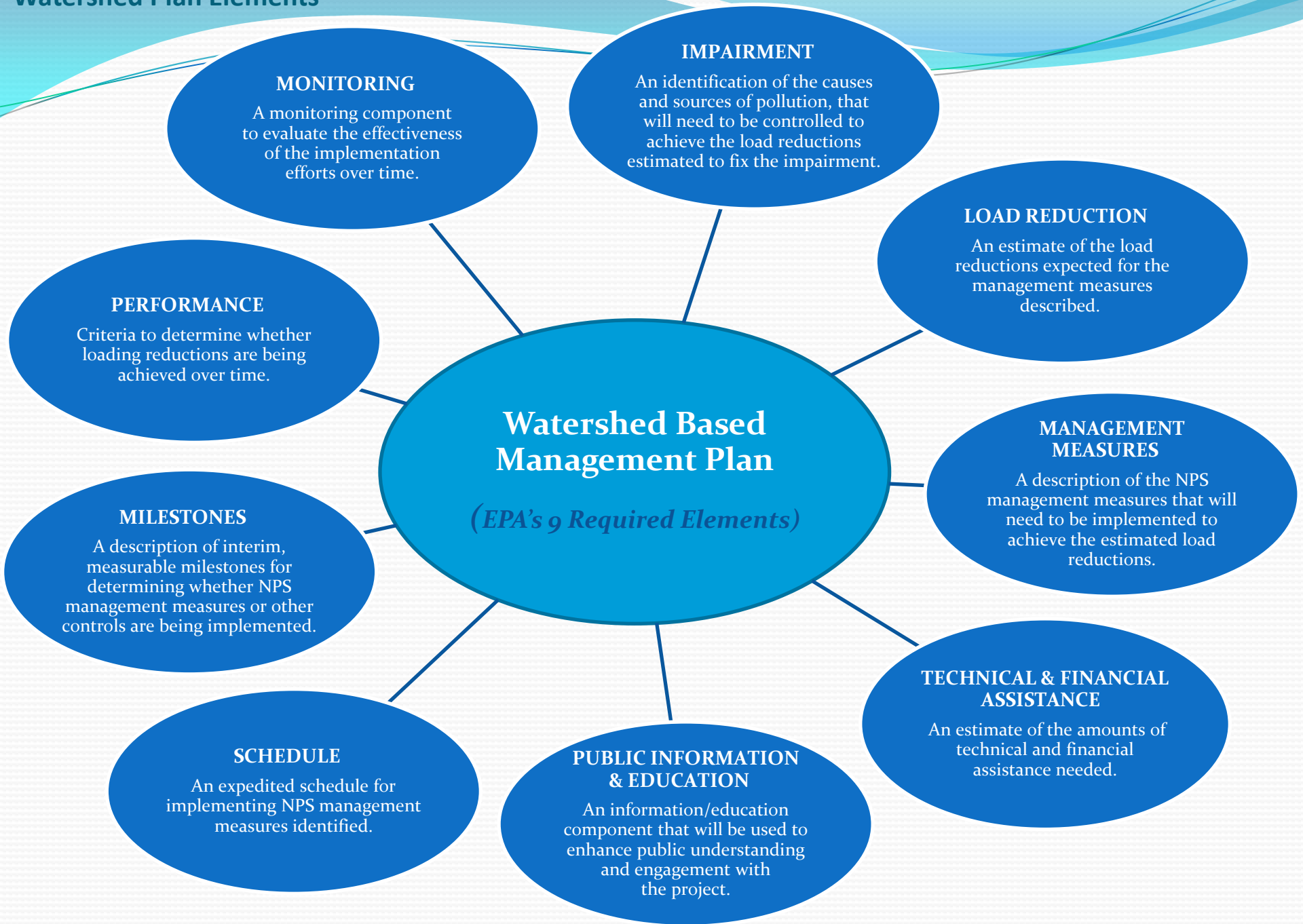
Need for Updated Watershed Plan



- Out of date Watershed Management Plan (2006)
 - New Data (Increased Number of Impaired Areas)
 - New prescribed format required by EPA
- Current identified solutions (i.e. TMDL plans) are generalized
- Need to identify and prioritize site specific solutions
- Provides mechanism for funding corrective actions



Watershed Plan Elements



IMPAIRMENT

An identification of the causes and sources of pollution, that will need to be controlled to achieve the load reductions estimated to fix the impairment.

MONITORING

A monitoring component to evaluate the effectiveness of the implementation efforts over time.

LOAD REDUCTION

An estimate of the load reductions expected for the management measures described.

MANAGEMENT MEASURES

A description of the NPS management measures that will need to be implemented to achieve the estimated load reductions.

TECHNICAL & FINANCIAL ASSISTANCE

An estimate of the amounts of technical and financial assistance needed.

PUBLIC INFORMATION & EDUCATION

An information/education component that will be used to enhance public understanding and engagement with the project.

SCHEDULE

An expedited schedule for implementing NPS management measures identified.

MILESTONES

A description of interim, measurable milestones for determining whether NPS management measures or other controls are being implemented.

PERFORMANCE

Criteria to determine whether loading reductions are being achieved over time.

Watershed Based Management Plan

(EPA's 9 Required Elements)

WBP VISION STATEMENT & GOALS

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What role do town land use commissions serve in the process?

- Become familiar with stream impairments*
- Share local land use knowledge and observations
- Identify potential sources related to impairment
- Help convene residents at public informational forums
- Identify sites for best practices to be implemented
- Help prioritize what BMP's to implement, when, and by whom



Impaired Waters

What are impaired waters?

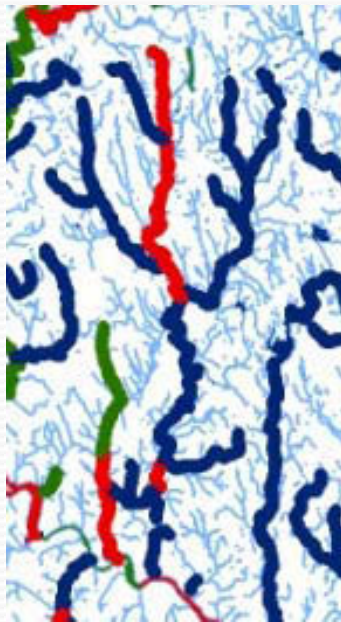
- An impaired or threatened waterbody is any waterbody that is listed according to section 303(d) of the Clean Water Act.

A waterbody is considered impaired if it does not attain water quality standards.

- For biologically impaired river segments, often multiple potential sources exist and determination of the definitive cause(s) and source(s) requires further investigative work.



What/Where are our locally impaired waters?



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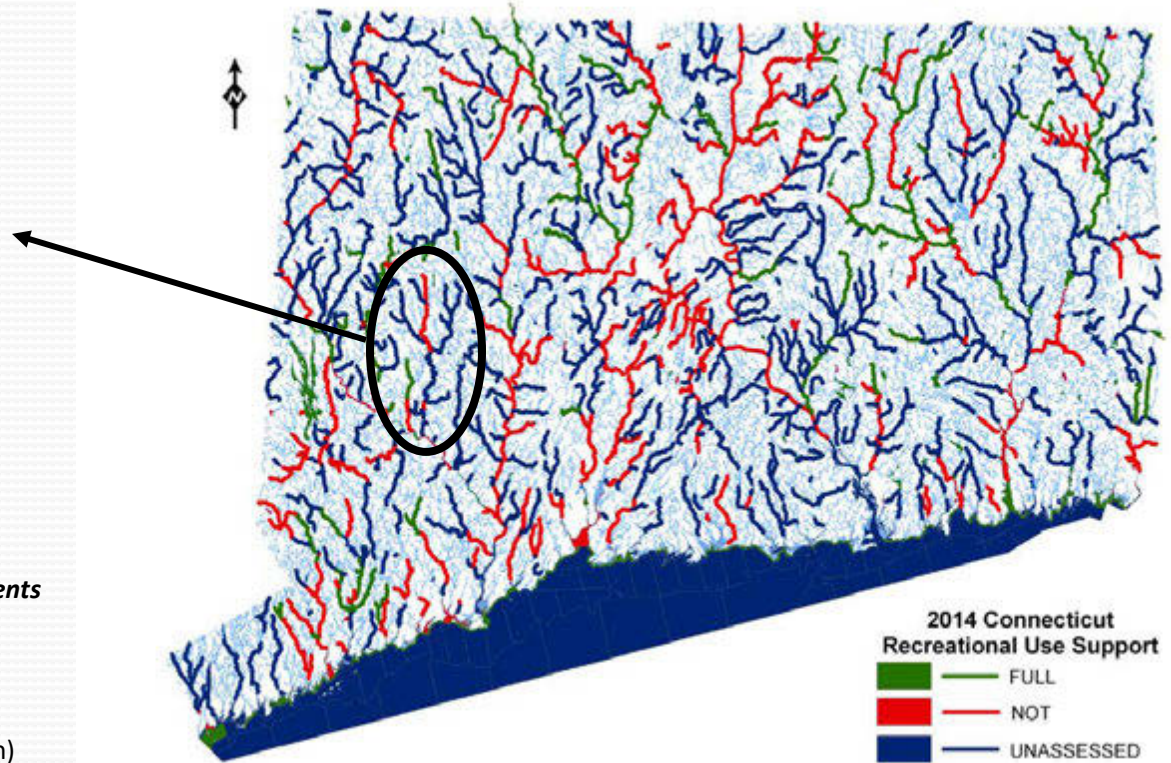
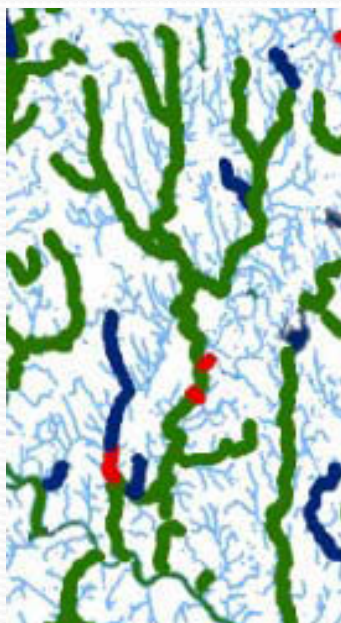


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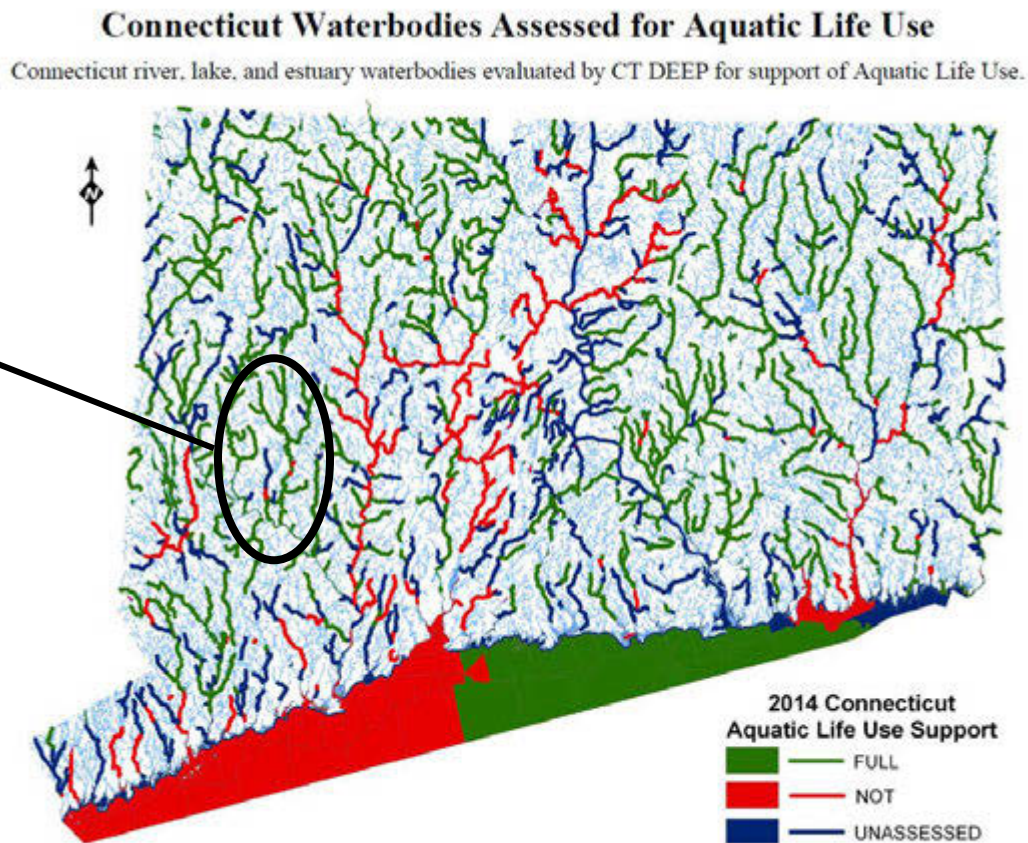


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Impairments Timeline

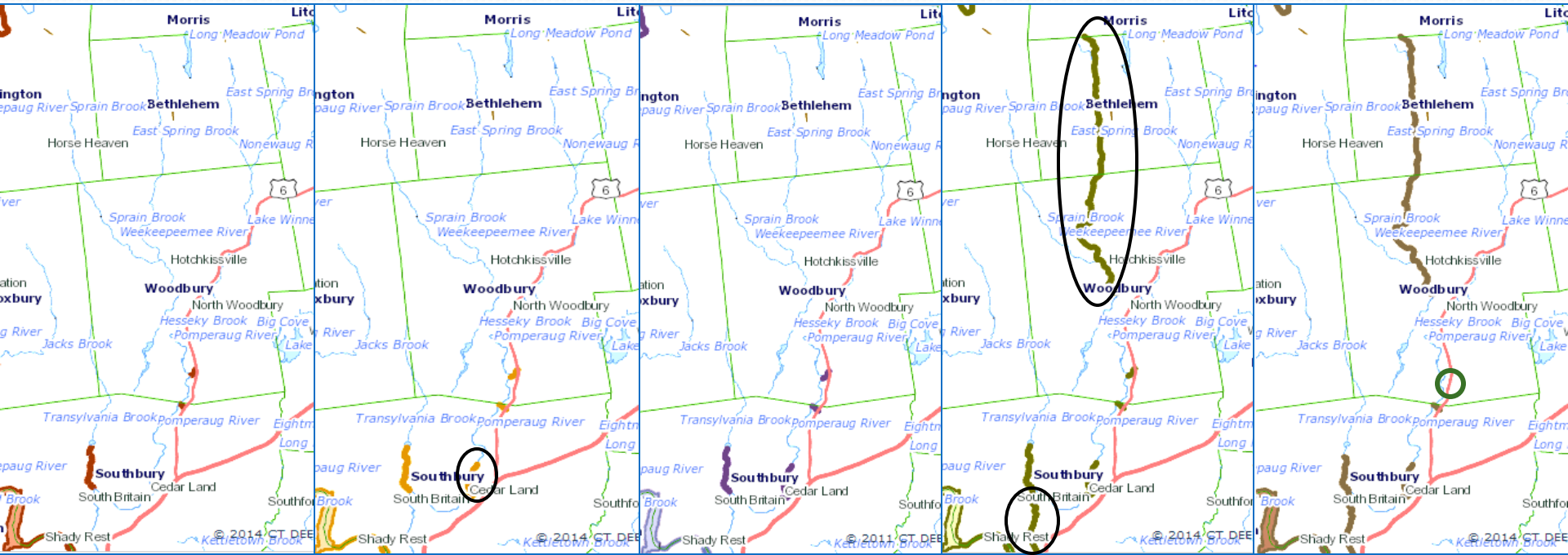
2006

2008

2010

2012

2014



Next Steps

- Consider local land use issues (particularly adjacent to streams)
- Pass along information to PRWC related to sites of concern for inclusion in visual assessment surveys (priority on impaired streams)



Share Your Knowledge & Observations

Pomperaug River Watershed Coalition

39 Sherman Hill Road, C103
Woodbury, CT 06798

203-263-0076

info@pomperaug.org

www.pomperaug.org

Acknowledgements

- Connecticut Environmental Conditions Online
- CT Department of Energy and Environmental Protection
- Connecticut Community Foundation
- US Environmental Protection Agency

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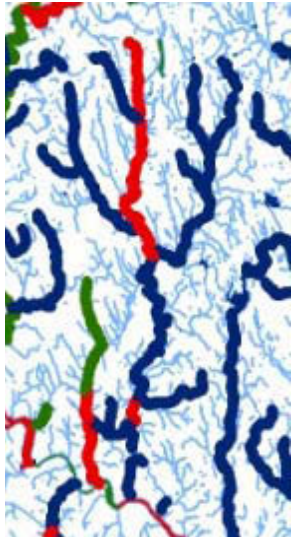
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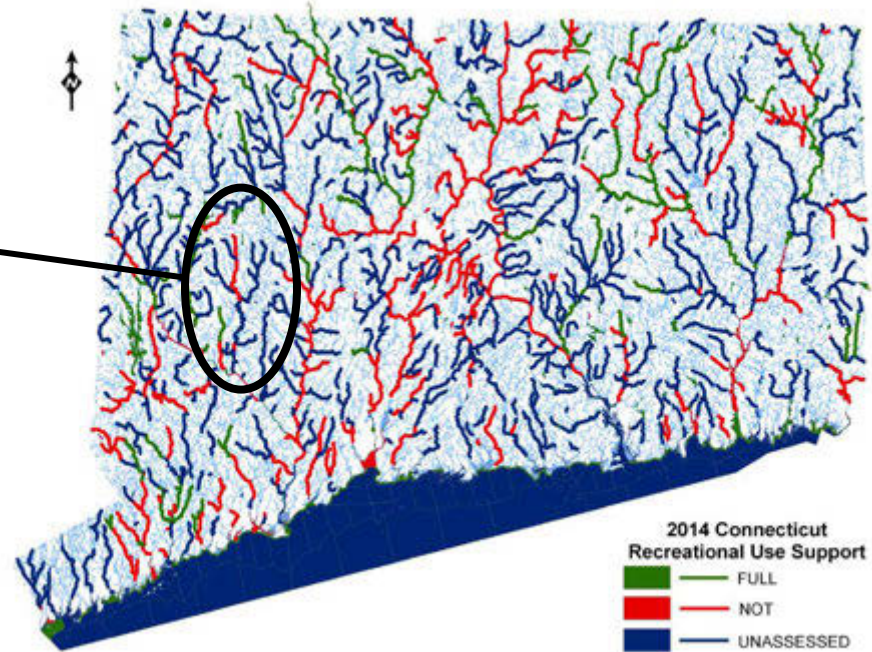
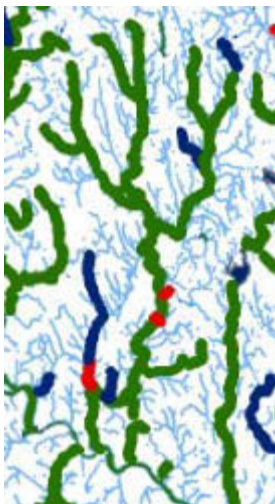


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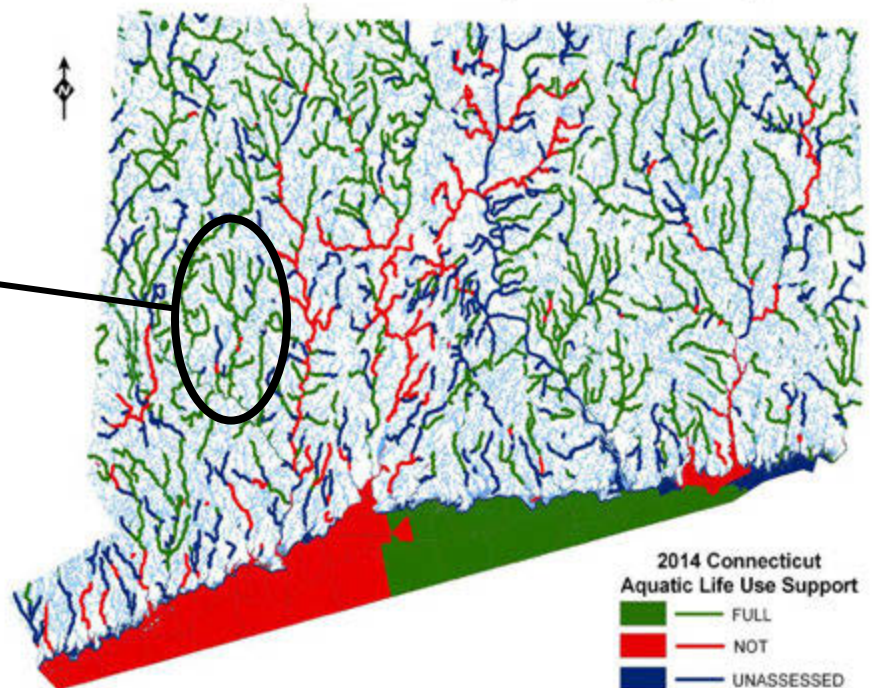


Figure 2-2. Waterbody segments assessed for Aquatic Life Use Support (ALUS)



Updating the Pomperaug Watershed Management Plan*

Town of Southbury
Conversation with Representatives of Town Land Use Commissions
Thursday April 4, 2017

Carol Haskins, Outreach Director
Pomperaug River Watershed Coalition

** 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.*

SCIENCE



Science is our first priority. We carry out studies that examine the river water, the groundwater, and the landscape to better understand and steward the health of our watershed. We want to ensure that our rivers, streams, and aquifer will be a trusted drinking water source, a vital habitat for aquatic wildlife, and a vibrant recreational resource for generations.

THE POMPERAUG RIVER WATERSHED: A TREASURE IN OUR MIDST.

What is a watershed?

It is all the water in our rivers, streams, lakes, wetlands and underground aquifers. It is also the landscape that surrounds these waters.



A watershed is the land that stretches from water's edge to the tops of nearby hills. Rain that falls here is either absorbed into the ground, replenishing the aquifer, or flows downhill as runoff until it reaches a river, stream, lake, or wetland.

The Pomperaug River Watershed is a 90-square mile watershed that drains to the Housatonic River Watershed in western Connecticut and that has geology mimicking the Connecticut River Watershed.



EDUCATION



Education is an essential service to our community.

We teach school children about the way and wonder of the watershed. We also teach our neighbors how they can protect this precious resource we all share. We provide information to governments and businesses that make critical decisions about how communities use our water.

Your stewardship matters!

Learn more about the watershed.
Become a Member. Make a donation.
Volunteer to help. Like us on Facebook.



For more information:

(203) 263-0076

www.pomperaug.org

39 Sherman Hill Rd, Woodbury, CT



PRWC Team

Board of Directors

Vincent McDermott, Chair
Joseph Eisenberg, Vice-Chair
Gail McTaggart, Vice-Chair
John Lacadie, Treas. & Sec.
Marianne Bette
Christopher Wood
J. Lawrence Pond - *Emeritus*

Anne Delo
Ann Merriam Feinberg
Frederick R. Leavenworth
Frank Sherer, Jr.
Dan Slywka

Staff

Len DeJong, Executive Director
Carol Haskins, Outreach Director
Anne Urkawich, Manager of Administration & Development

Advisory Council

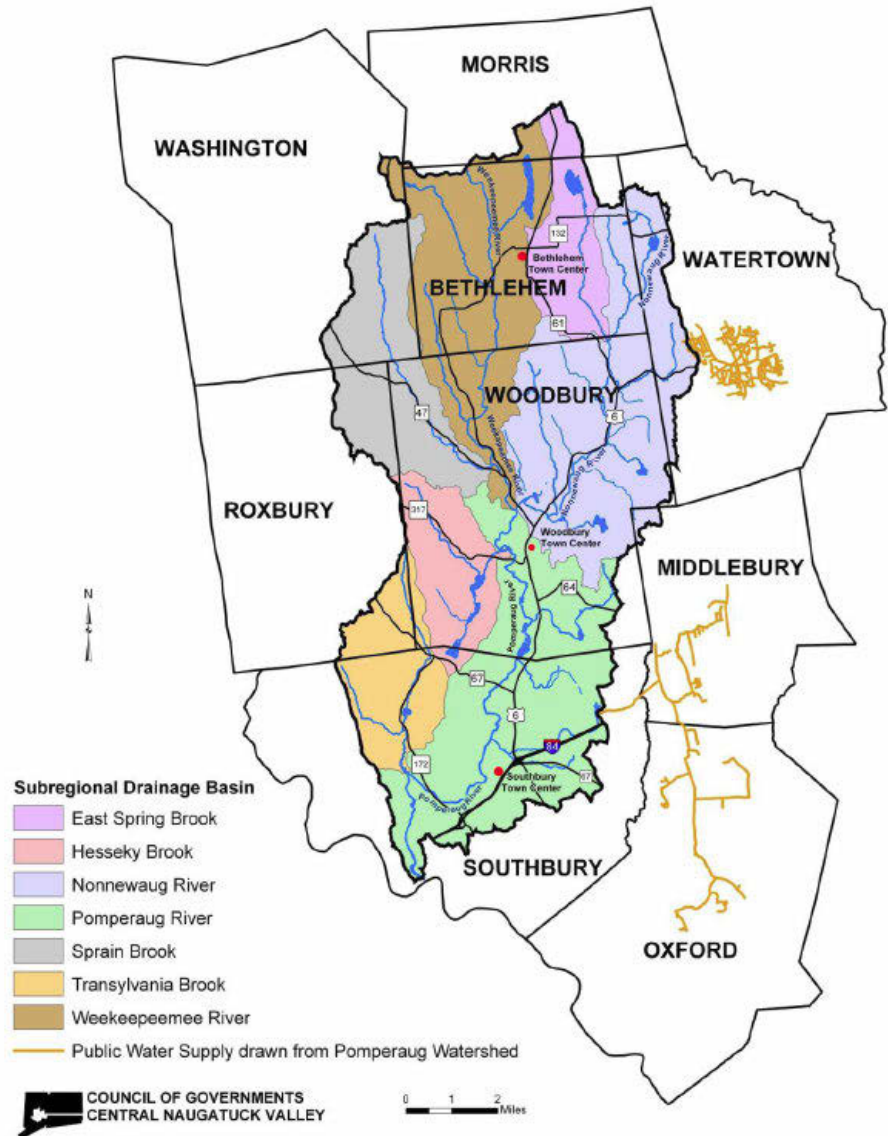
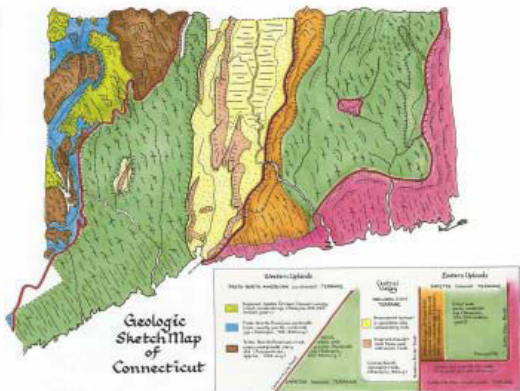
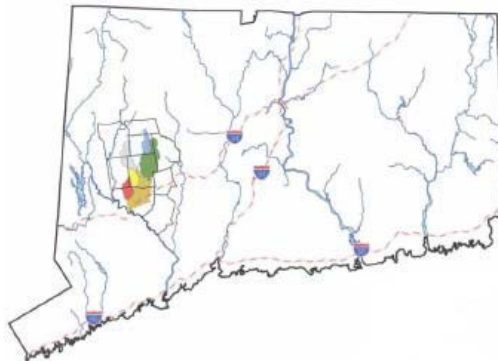
Barbara Ajello
Leslie Kane
Justin Bette
Neal Lustig
David Bjerklie
Susan Peterson
Aaron Budris

Karen Reddington-Hughes
DeLoris Curtis
Bob Travers
Kenneth Faroni
Kyle Turoczi
Karen A. Huber
Anne Westerman

Volunteers

Pomperaug River Watershed

A 90-square mile watershed that drains to the Housatonic River Watershed in western Connecticut and that has geology mimicking the centrally located Connecticut River Watershed.



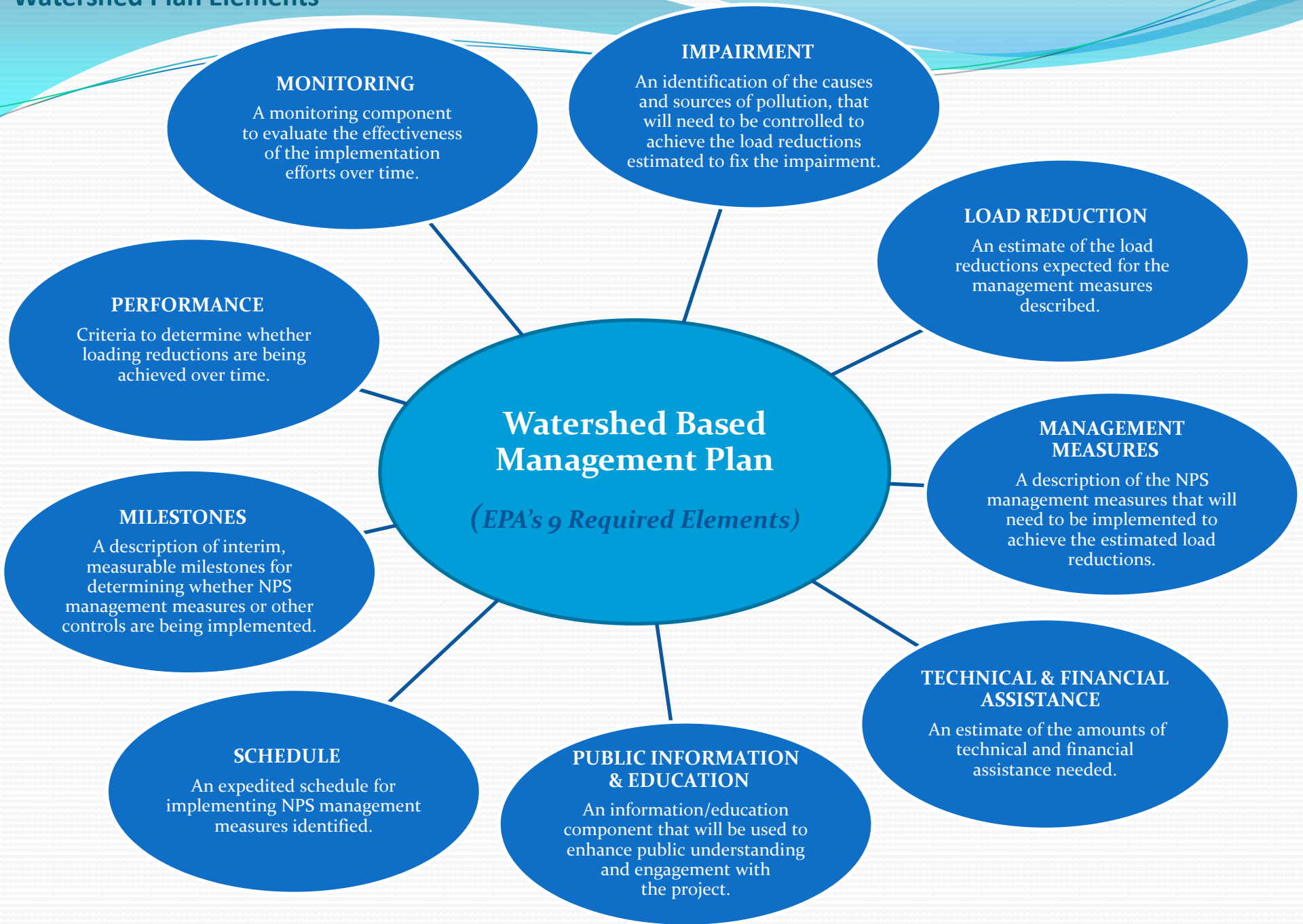
Need for Updated Watershed Plan



- Out of date Watershed Management Plan (2006)
 - New Data (Increased Number of Impaired Areas)
 - New prescribed format required by EPA
- Current identified solutions (i.e. TMDL plans) are generalized
- Need to identify and prioritize site specific solutions
- Provides mechanism for funding corrective actions



Watershed Plan Elements



IMPAIRMENT

An identification of the causes and sources of pollution, that will need to be controlled to achieve the load reductions estimated to fix the impairment.

MONITORING

A monitoring component to evaluate the effectiveness of the implementation efforts over time.

LOAD REDUCTION

An estimate of the load reductions expected for the management measures described.

MANAGEMENT MEASURES

A description of the NPS management measures that will need to be implemented to achieve the estimated load reductions.

TECHNICAL & FINANCIAL ASSISTANCE

An estimate of the amounts of technical and financial assistance needed.

PUBLIC INFORMATION & EDUCATION

An information/education component that will be used to enhance public understanding and engagement with the project.

SCHEDULE

An expedited schedule for implementing NPS management measures identified.

MILESTONES

A description of interim, measurable milestones for determining whether NPS management measures or other controls are being implemented.

PERFORMANCE

Criteria to determine whether loading reductions are being achieved over time.

Watershed Based Management Plan

(EPA's 9 Required Elements)

WBP VISION STATEMENT & GOALS

PRWC's vision is that this Plan will be used as a road map to return impaired waters to swimmable and fishable conditions and that this document will be used as a guide to evaluate changes through time. PRWC's goal for the Pomperaug Watershed Based Plan is develop a document that:

- establishes an up-to-date baseline of conditions in the watershed;
- evaluates contributing causes of known water quality impairments;
- identifies water quality monitoring needs;
- identifies and prioritizes steps to reduce pollutant inputs to impaired rivers and streams;
- incorporates proactive measures to protect/maintain high quality streams; and,
- establishes community buy-in through public engagement in the planning and implementation process.



What role do town land use commissions serve in the process?

- Become familiar with stream impairments*
- Share local land use knowledge and observations
- Identify potential sources related to impairment
- Help convene residents at public informational forums
- Identify sites for best practices to be implemented
- Help prioritize what BMP's to implement, when, and by whom



Impaired Waters

What are impaired waters?

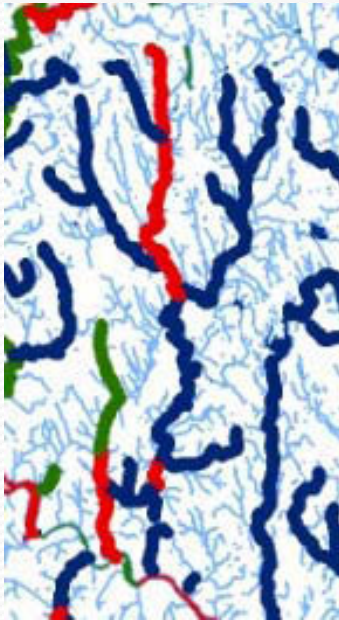
- An impaired or threatened waterbody is any waterbody that is listed according to section 303(d) of the Clean Water Act.

A waterbody is considered impaired if it does not attain water quality standards.

- For biologically impaired river segments, often multiple potential sources exist and determination of the definitive cause(s) and source(s) requires further investigative work.



What/Where are our locally impaired waters?



Pomperaug Recreational Impairments due to elevated bacteria levels:

Weekeepeemee River (entire)
Pomperaug River (2 segments)
Transylvania Brook (lower section)

Connecticut Waterbodies Assessed for Recreational Use
Connecticut river, lake, and estuary waterbodies evaluated by CT DEEP for support of Recreational Use.

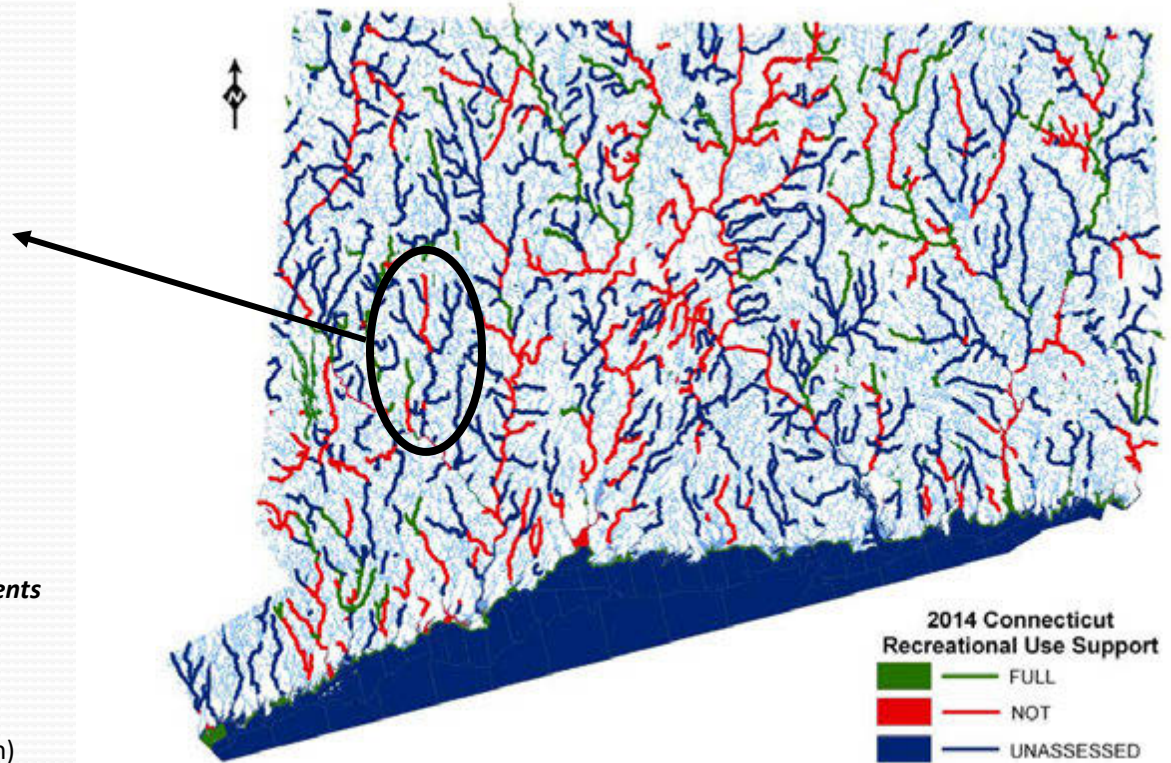
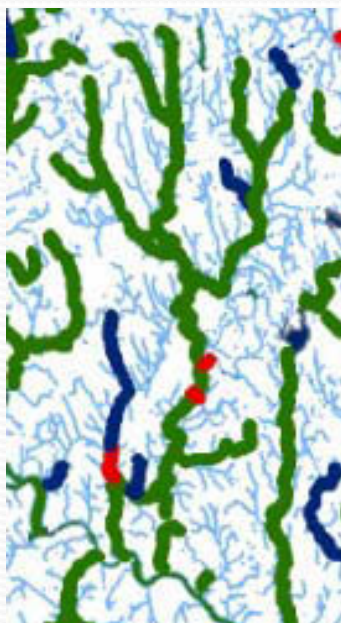


Figure 2-6. Waterbody segments assessed for Recreational Use Support (REC)

What/Where are our locally impaired waters?



***Pomperaug Aquatic Life Use Impairments
due to flow regime alteration:***

Stiles Brook (below dam)
South Brook (previously listed)

Due to ammonia, chlorine, copper, zinc:

Transylvania Brook (lower section)

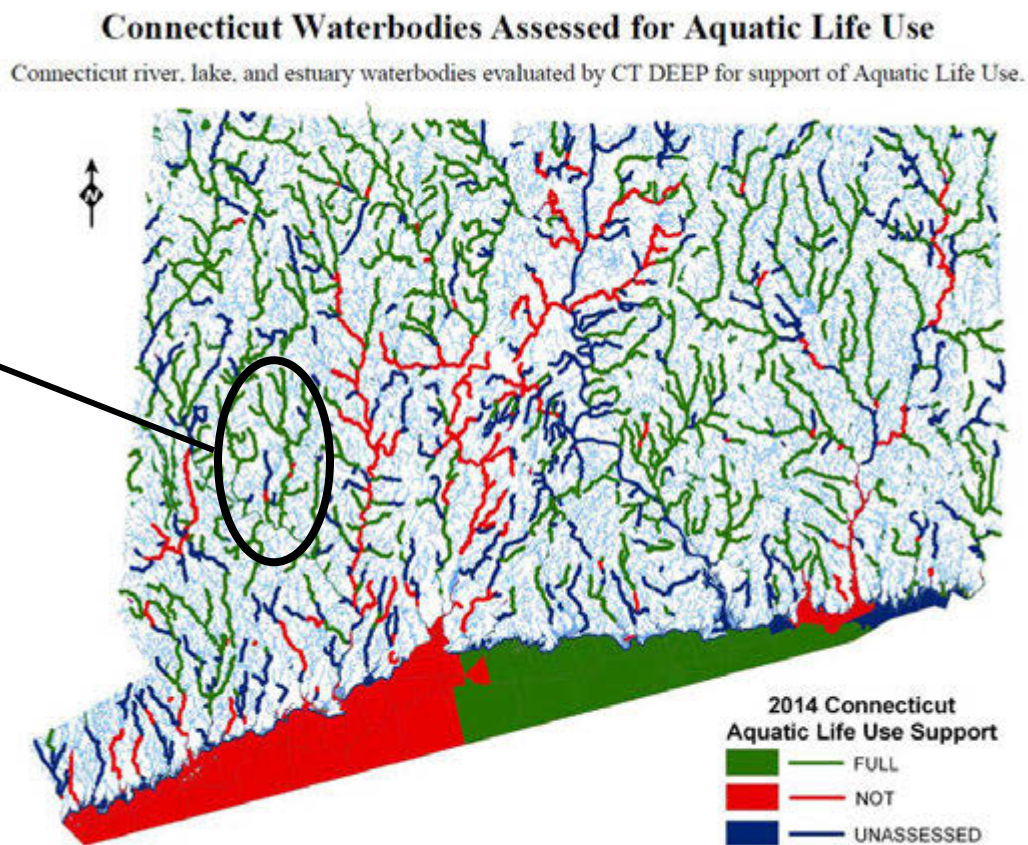


Figure 2-2. Waterbody segments assessed for Aquatic Life Use Support (ALUS)

Impairments Timeline

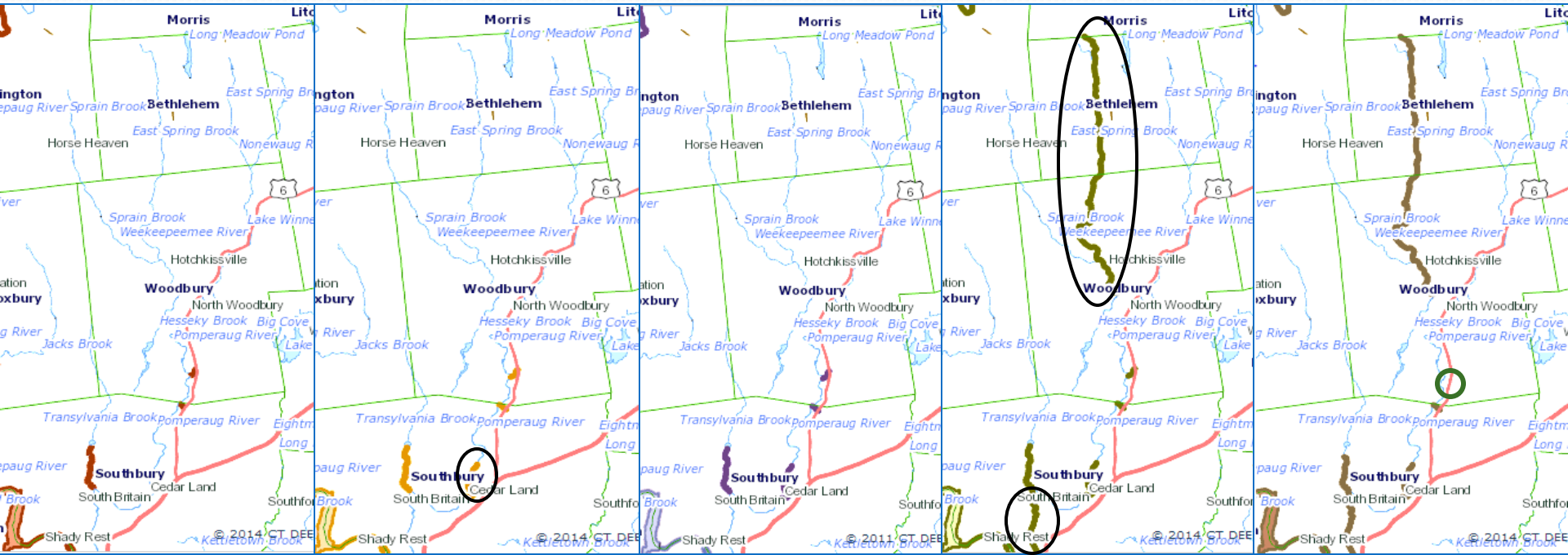
2006

2008

2010

2012

2014



Next Steps

- Consider local land use issues (particularly adjacent to streams)
- Pass along information to PRWC related to sites of concern for inclusion in visual assessment surveys (priority on impaired streams)



Share Your Knowledge & Observations

Pomperaug River Watershed Coalition

39 Sherman Hill Road, C103

Woodbury, CT 06798

203-263-0076

info@pomperaug.org

www.pomperaug.org

Acknowledgements

- Connecticut Environmental Conditions Online
- CT Department of Energy and Environmental Protection
- Connecticut Community Foundation
- US Environmental Protection Agency

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POMPERAUG WATERSHED BASED PLAN

VISION STATEMENT & GOALS

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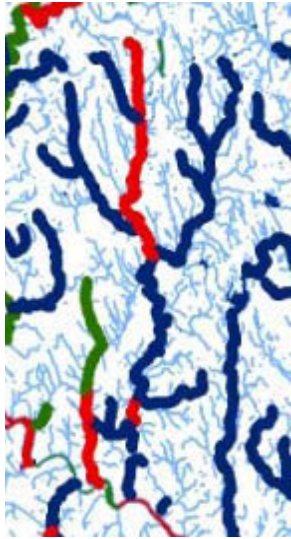
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- establishes community buy-in through public engagement in the planning and implementation process.

WHAT ROLE DO TOWN LAND USE COMMISSIONS SERVE IN THE PLAN DEVELOPMENT PROCESS?

- Share local land use knowledge and observations (priority: impaired stream areas)
- Identify potential sources related to stream impairments
- Help convene residents at public informational forums
- Identify sites for best practices to be implemented
- Help prioritize what BMP's to implement, when, and by whom
- Pass along information to PRWC related to sites of concern for inclusion in visual assessment surveys (priority on impaired streams):

Contact: Carol Haskins, Outreach Director, at chaskins@pomperaug.org or 203-263-0076

WHAT / WHERE ARE OUR LOCALLY IMPAIRED STREAM SEGMENTS?



Pomperaug Recreational Impairments

due to elevated bacteria levels:

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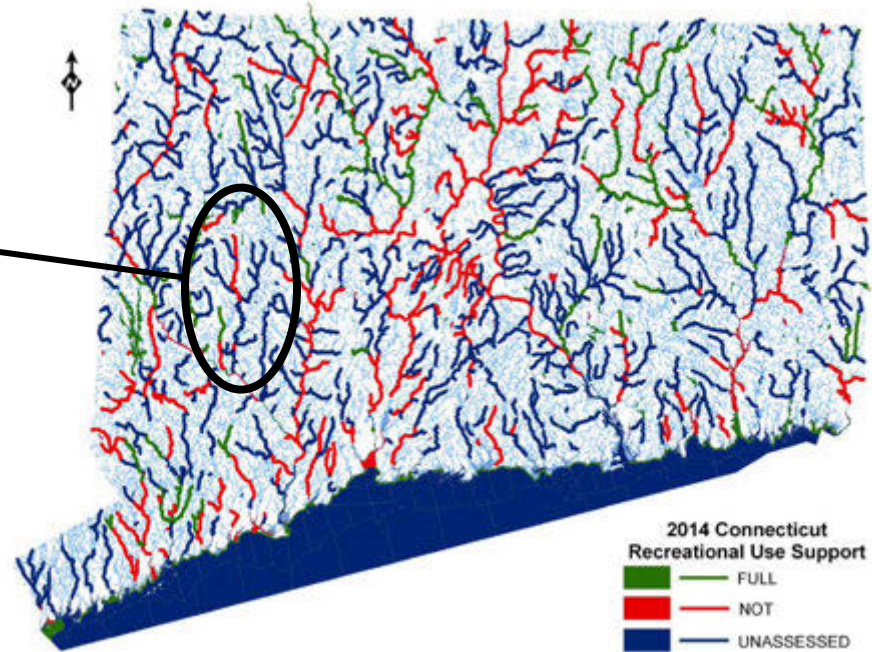
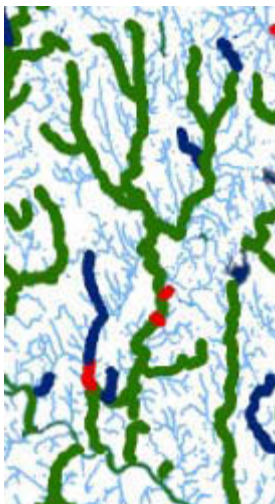


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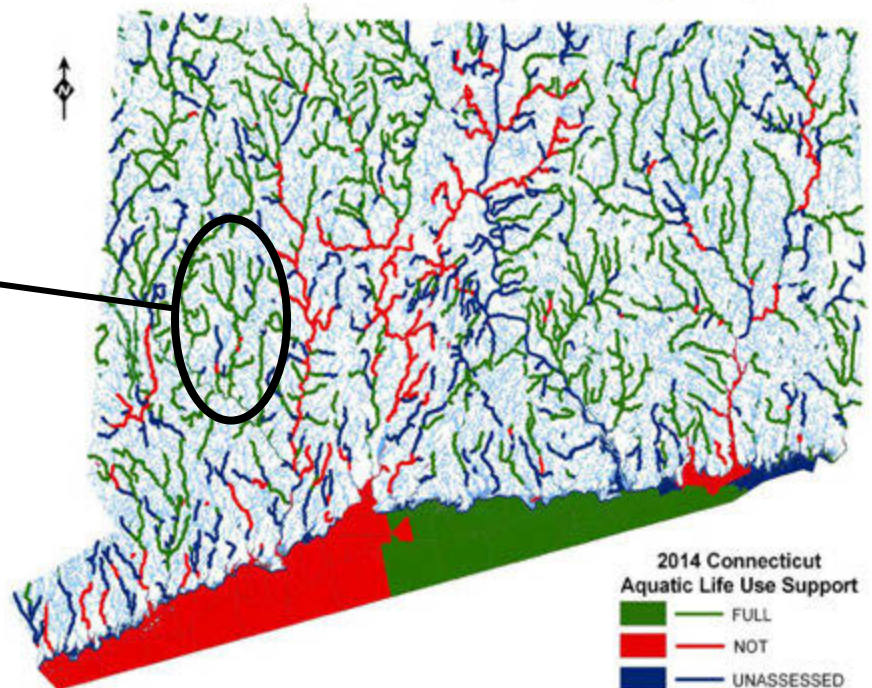


Figure 2-2. Waterbody segments assessed for Aquatic Life Use Support (ALUS)

From: [DeLoris Curtis](#)
To: [Carol Haskins](#)
Subject: RE: Thursday - Today
Date: Thursday, April 6, 2017 1:08:58 PM

Thank you as well. It seemed to work out well. I think you have everyone that was there. Maybe this is a new way to get up close and personal with the members. And, pass the word.

Thanks

DeLoris Curtis, AICP
Land Use Administrator
Planning@southbury-ct.gov
(203) 262-0634
(203)264-3719(Fax)

TOWN OF SOUTHBURY
501 Main Street South
Southbury, CT 06488
(203) 262-0600
www.southbury-ct.org

From: Carol Haskins [mailto:chaskins@pomperaug.org]
Sent: Thursday, April 06, 2017 12:17 PM
To: DeLoris Curtis
Cc: 'Len DeJong'; 'Vince McDermott'
Subject: RE: Thursday - Today

Hi DeLoris -

Thanks SO MUCH for pulling together the wonderful group of Land Use commission representatives this morning! I think it was a really nice cross section of the commissions and a nice diversity in view points around the table. And, as always, a group with very astute questions related to water issues! In follow-up to the conversation, I wanted to share electronic copies of the hand-outs as I didn't have enough for everyone. I also wanted to make a follow-up note on something that I should have underscored in the conversation. That point is that the field surveys and WBP as a whole is not intended to be an exercise identifying enforcement actions to be taken, but is intended to be an exercise in creative problem solving. It occurred to me on the drive back to Woodbury that I didn't underscore that enough.

Please feel free to pass along the attachments to those in attendance as well as other land use commissioners as you see fit.

Thanks you again for orchestrating today's get together!
Carol

P.S. Can you confirm for me that this was the list of participants? I feel like I am missing someone...

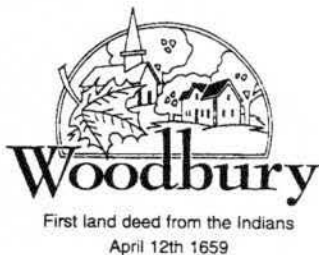
Dan Slywka - Wetlands
Martin Ludorf - Zoning
Bill Spencer - Wetlands
Harmon Andrews - Planning
Nancy Clark - Planning
Susan B. Monteleone - Zoning
John Cottell - Public Works Dir.
Chris McGinness - Land Use Enforcement
Jeff Manville - First Selectman
DeLoris Curtis - Town Planner

From: DeLoris Curtis [<mailto:planning@southbury-ct.gov>]
Sent: Thursday, April 6, 2017 9:41 AM
To: Carol Haskins
Subject: Thursday - Today

Morning – just realizing I did not hear back from you. Are you still able to come this morning?

DeLoris Curtis, AICP
Land Use Administrator
Planning@southbury-ct.gov
(203) 262-0634
(203)264-3719(Fax)

TOWN OF SOUTHBURY
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Southbury, CT 06488
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TOWN OF WOODBURY

Selectmen's Office

281 Main Street South
Woodbury, Connecticut 06798

TELEPHONE: (203) 263-2141
FAX: (203) 263-4755

Board of Selectmen Annual Joint Land Use Meeting
Wednesday, January 17, 2018
7:00 p.m.
Senior/Community Center

AGENDA

1. Call to Order
2. Introduction - First Selectman Bill Butterly
3. Guest Speaker – Thomas A. Kaelin, Attorney at Law
 - a. *Discussion regarding Ethics and Conflicts of Interest*
 - b. *Update on Sign Regulations*
4. Carol Haskins, Pomperaug River Watershed Coalition - Update on Watershed Management Plan
5. Brief Overview of Successes and Challenges – Commission Chairs/Designees
 - a. Conservation Commission
 - b. Historic District Commission
 - c. Inland Wetlands & Watercourses Agency
 - d. Planning Commission
 - e. Zoning Board of Appeals
 - f. Zoning Commission
6. Introduction of Gabe Rosen, Land Use Enforcement Officer – Mr. Butterly
7. Adjournment

Respectfully Submitted,

William J. Butterly, Jr.
First Selectman

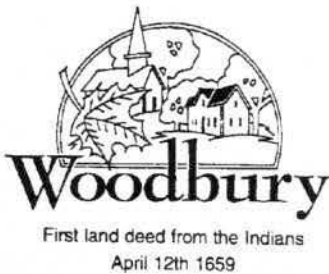
RECEIVED & FILED
IN WOODBURY, CT

This 11th day of Jan 2018
at 10:40 o'clock A M

Town Clerk

TOWN OF WOODBURY

281 Main Street South
Woodbury, Connecticut 06798-0369



Minutes of the Board of Selectmen Joint Land Use Meeting *Wednesday, January 17, 2018 ♦ 7:00 p.m. Senior/Community Center*

Present: First Selectman Bill Butterly; Selectmen Barbara Perkinson and George Hale; Tom Amatruda, Andrew Chapman, Susan Cheatham, Bob Clarke, Mary Connolly, Joe Donato, Vincent Faricello, James Frey, Ruth Melchiori, Mike Novak, Lesa Peters, Don Richards, Kenneth Schultz, Deborah Schultz, Jeff Sherman, David Taylor, and Mary Tyrrell; also, Maryellen Edwards, Gabe Rosen, Attorney Tom Kaelin, Carol Haskins, Len DeJong, one additional member of the community, one member of the press, and clerk Deb Carlton

Call to Order

Mr. Butterly convened the meeting at 7:02 p.m.

Introduction – First Selectman

Mr. Butterly welcomed those present, and offered a look back at the past year. He noted Ms. Edwards has been faced with some arduous tasks in her first year here, including the MS4 stormwater management plan. A committee has been appointed to continue work on that. Initial surveys have begun regarding the POCD, too, and Milone & McBroom serves as the Town's on call engineers. Also this year, the Town has addressed dueling landlords, a sober house application, the question of a copper pineapple adorning the gallery cupola, the high school renovation project, the use of the barn on Rt. 6, a new brewery in the Middle Quarter, and replacing the outgoing zoning compliance officer. Along with all this, he noted implementation of the View Point permitting software, with Lisa Bigham in the Building Department as key to that project. He concluded by saying he no longer hears visitors bellowing from the first floor of Shove, complaining that the land use office is closed. He said good things are going on here and he urged keeping things moving forward.

Guest Speaker – Attorney Tom Kaelin

Attorney Kaelin spoke on the topic of conflicts of interest and gave an update on sign regulations. Regarding conflicts of interest, he urged those present to begin with the Town Charter, where that subject is addressed, and noted this is our guideline for service. It is possible, he said, to have a conflict and still serve; however, if the conflict is a material one, it will be necessary to recuse. Material conflicts can be financial or personal, and he outlined the procedures for recusal as well as penalties for not doing so. He spoke about *predisposition*, where no specific circumstances cause a conflict, but a pre-existing mindset prevents the person from ever being persuaded. If found to have a predisposition, the member would be asked to recuse. He also spoke of *antagonism*, and urged members to be aware of it when it happens. Antagonism results when someone goes after a member to get him/her to say something prejudicial in order to disqualify that member from an application process. He urged members to be aware of what they say publically. Lastly, Attorney Kaelin spoke of *representation*, which prohibits anyone serving on a land use board within the past 12 months from appearing on behalf of or representing any person or entity before any land use board.

Regarding signs, he said the Town will emphasize sign enforcement this year. There are a number of signs not in compliance and those will be reviewed. Sign regulations may be revised. He noted a case in Milford involving signs and zoning, and is awaiting a decision on that. Asked if a sign ordinance is being considered, he said that an ordinance is not the preferred solution.

Update - Carol Haskins, Pomperaug River Watershed Coalition

Ms. Haskins discussed progress on the updating of the 2006 watershed plan. She gave status updates on: impaired waters, the Watershed Based Plan (WBP) vision statement and goals, a process overview showing steps completed or in progress, next steps, and public information sessions. She answered questions regarding bacteria

levels in local waters, the extent of water sampling and monitoring, and ways to alert those who fish or swim of bacteria levels.

Brief Overview of Successes and Challenges – Commission Chairs (or designees):

Conservation Commission – David Taylor: This group completed a listing of open space last year, found there were more, and made changes/updates. A list of Town owned open space will be available at the Land Use office. The challenge is capturing information when land transfers are made and become protected as open space. This year, the group hopes to articulate the importance of conserving open space, will develop a management plan for the Sherwood property, and will contribute to the Town's PoCD.

Ms. Edwards added that one of her goals is to have pages on the Town website for each commission, with links added for public use. Mr. Taylor and the others present expressed interest in this idea.

Historic District Commission – Susan Cheatham: The charge of this group was reviewed. They seek to protect the Town from an historical perspective, looking to the future while preserving the past. Surveys have demonstrated there is an interest in preserving the historic aspects of the Town, she said.

Inland Wetlands & Watercourses Agency – Mary Tyrrell: thanked all those who volunteer in town, and feels the effort shows. This group has 2 applications currently: parking at the Marketplace, and the Dollar General. Public hearings are upcoming. Smaller applications have made up the rest of the year, along with review of floodplains for the NHS building project. She reviewed the group's charge of protecting viable water for now and the future, noting CT is one of four towns in the state that protects 500' from vernal pools. A proponent of farming, she stressed the need to be consistent in the consideration of all applications and the effects on wetlands.

Planning Commission – Mary Connolly: noted the Plan of Conservation and Development is ahead of schedule. It is being rewritten without consultants and her group will meet with other land use boards to help with revisions, and will do surveys for more detailed feedback. They are looking at other towns' plans for ideas, and they want it to be user friendly. Focus groups will also be set.

Zoning Board of Appeals – Michael Novak: noted he now has a full complement of a board, which is a good thing. He noted very good interactions with the Town Planner's office and thanked them for that. He spoke of the challenges of giving people reasonable use of their land, while recognizing that any variances granted goes with that land indefinitely. He feels his board works in a bi-partisan way and well together. And, even if an appeal ends up in court, the aim is to put the Town in the best position possible to defend itself legally.

Zoning Commission – Bob Clarke: last year, this group approved applications for 10 new businesses, 1 activity by use, 10 residential units in the Planned Industrial District (PID), a conversion back from a 1 family house with a business to a 2 family house, and the division of property on Rt. 61 into 2 separate building lots. His group is working on revisions to regulations. He requested that the Aquifer Protection Agency (APA) be included on future agendas, and he commented on a rumor that an agency is looking to take over the APA, which he pledged to defend against.

Ms. Edwards introduced Land Use Enforcement Officer, Gabe Rosen, a UCONN graduate with background in conservation who comes to us from Monroe. She also thanked all the land use boards and commissions, and said it is clear to her that they are all here for a purpose, care about what they are doing, and she attributes the good things going on in town to them.

First Selectman Butterly thanked everyone for coming and adjourned the meeting at 8:47 p.m.

Respectfully submitted,



Deb Carlton, Asst. to the First Selectman

RECEIVED & FILED
IN WOODBURY, CT

This 18th day of Jan 2018
at 2:30 o'clock P M
John S. Carlton
Town Clerk



Updating the Pomperaug Watershed Management Plan*

Town of Woodbury
Joint Land Use Boards Meeting
Thursday January 17, 2018

Carol Haskins, Outreach Director
Pomperaug River Watershed Coalition

** 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.*

Need for Updated Watershed Plan



- Out of date Watershed Management Plan (2006)
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 - New prescribed format required by EPA
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Impaired Waters

What are impaired waters?

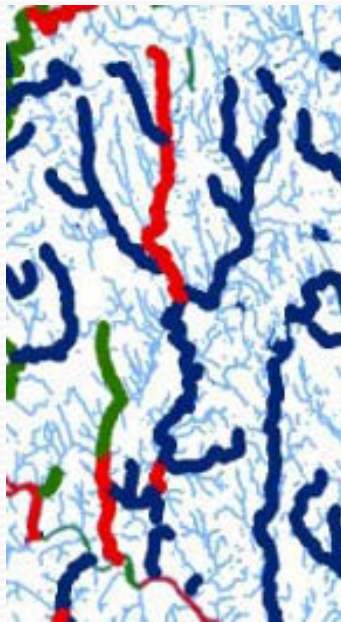
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What/Where are our locally impaired waters?



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due to elevated bacteria levels:***

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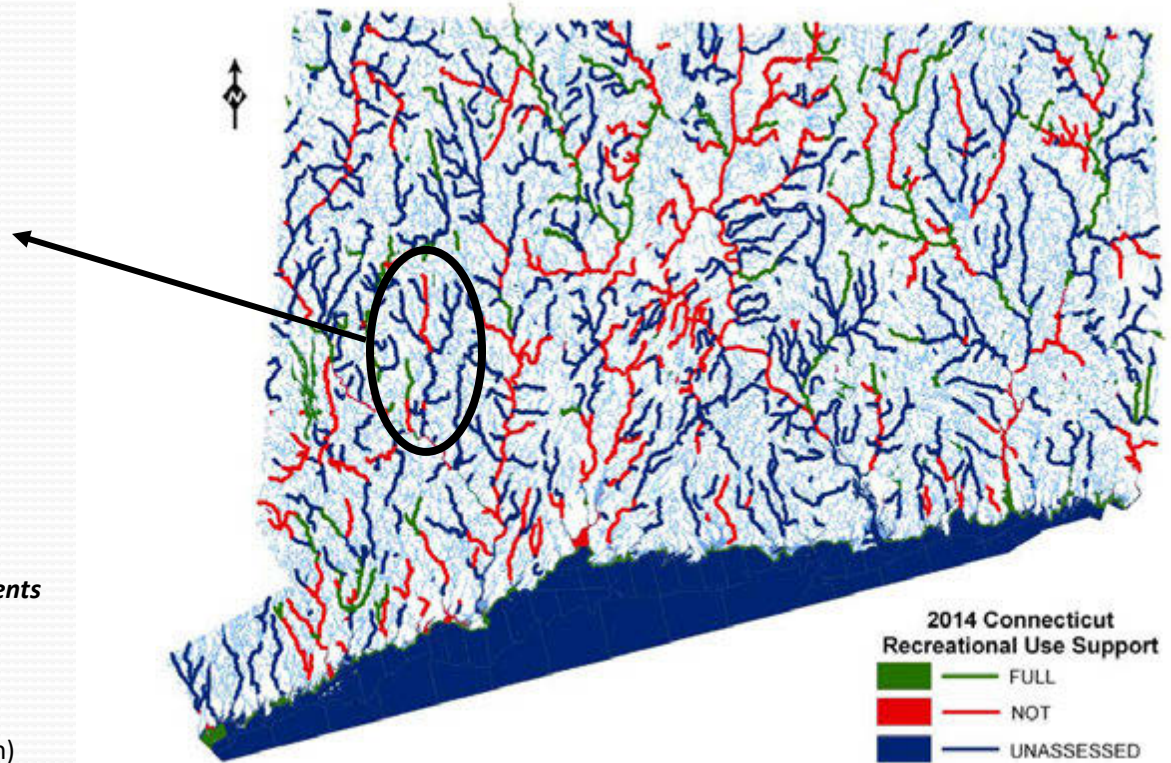
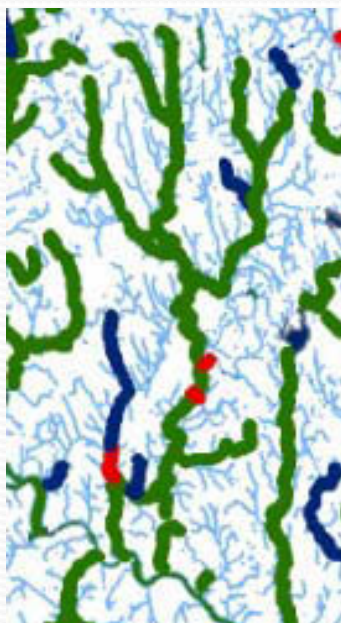


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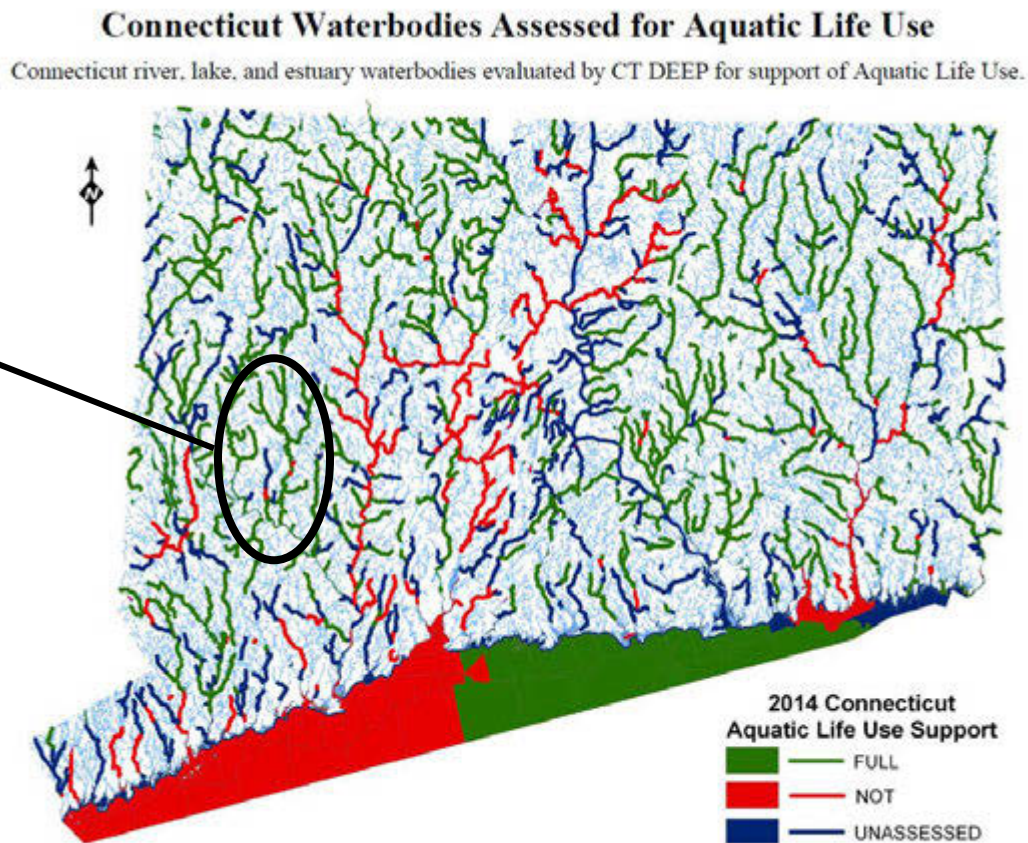


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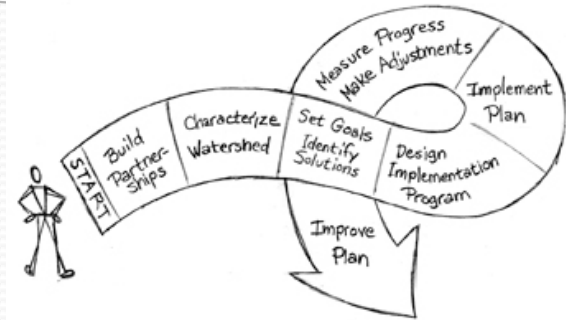
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Process Overview



- Convene Steering Committee 
- Annotated List of Existing Plans and Studies 
- Vision Statement & Goals 
- Retention of Consultant Services 
- Identification of Data Gaps 
- Quality Assurance Project Plans (QAPP) 
- Load Reduction Goals Report 
- Public Outreach – Introduction and Presentation of Project 
- Field Assessment Report & Identification of Potential BMP Locations 
- BMP Conceptualization 
- BMP Prioritization
- BMP Implementation Strategy
- Draft, Review, Finalize Watershed Based Plan

 Complete  In-Progress

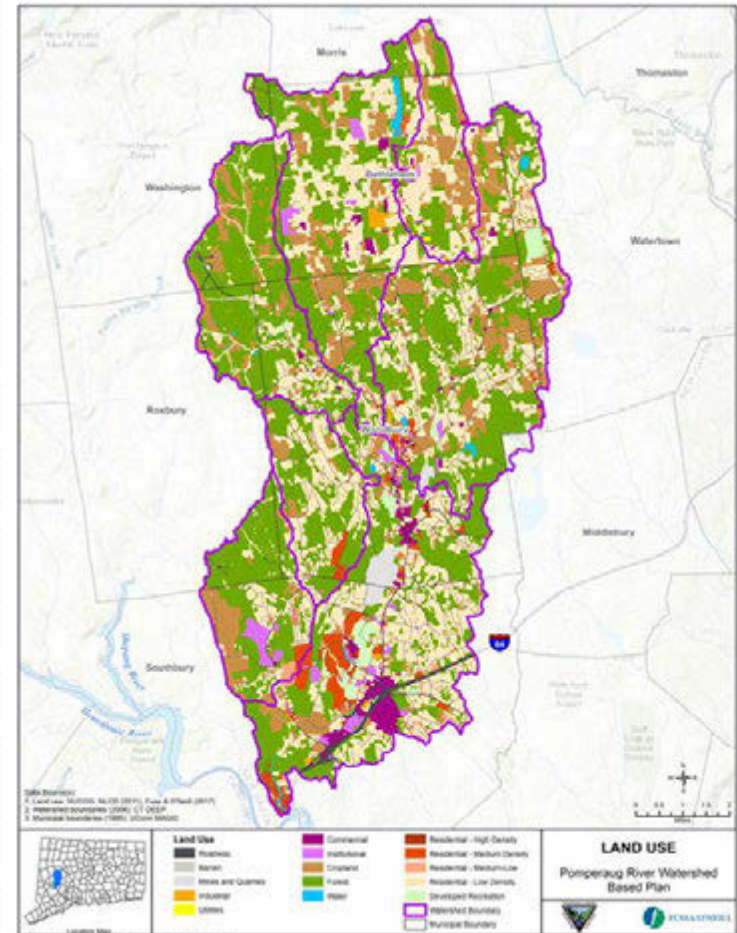
Next Steps

- Finalize Pollutant Load Modeling & Load Reduction Goals (January)
- **Present public information sessions in Woodbury, Southbury, and Bethlehem / capture community input (February)**
- Finalize Prioritize BMP Concepts and Implementation Strategy (February)
- Draft Watershed Based Plan, Review and Finalize (March / April)



Public information sessions

- Updated existing conditions of watershed
 - Impairments, land use, land cover, impervious surfaces, committed open space
- Pollutant loading model
 - Overview of model inputs and assumptions
 - Model estimates for bacteria, nutrients, and sediment loading
 - Load reduction goals
- Visual Assessment Survey Findings
- Overview of BMP Recommendations
- Capture community input / feedback



Share Your Knowledge & Observations

Pomperaug River Watershed Coalition

39 Sherman Hill Road, C103
Woodbury, CT 06798

203-263-0076

info@pomperaug.org

www.pomperaug.org

Acknowledgements

- Connecticut Environmental Conditions Online
- CT Department of Energy and Environmental Protection
- Connecticut Community Foundation
- US Environmental Protection Agency

The project of updating the Pomperaug Watershed Management Plan to an EPA Approved 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.

A Look at Water Quality in the Pomperaug Watershed



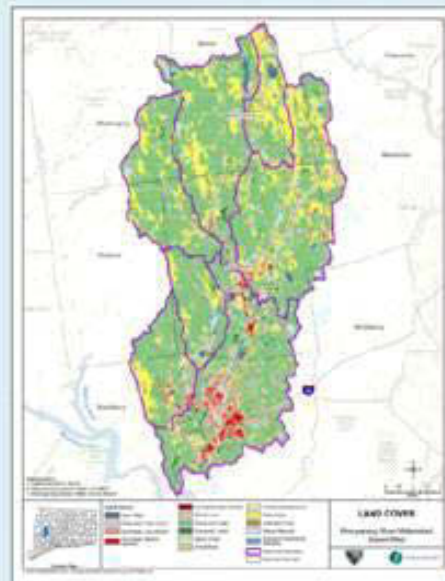
TUESDAY JULY 17 at 7:00PM
Shove Building, Woodbury Municipal Complex

WEDNESDAY JULY 18 at 2:00 PM
Room 205, Southbury Town Hall

WEDNESDAY JULY 18 at 6:30 PM
Leever Room, Bethlehem Public Library

PRESENTATION HIGHLIGHTS WILL INCLUDE:

- Efforts to update the Pomperaug Watershed Management Plan*
- Overview of in-stream water quality conditions
- Description of current land cover conditions
- Results of pollutant loading model analysis
- General recommendations for reducing bacteria, nutrient, and sediment loads to local rivers and stream (and Long Island Sound)
- Plans for expanding local stream monitoring
- Opportunity for audience feedback and input



FOR MORE INFORMATION:
www.pomperaug.org | 203-263-0076

* PRWC is in the process of updating its 2005 Watershed Management Plan to a 9-Element Watershed Based Plan, a project funded in part by 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. Revisions to the Plan are being made with guidance and oversight from PRWC's Land Use Committee whose membership includes but is not limited to representatives from local conservation organizations, town land use departments, as well as regional, state, and federal agencies.

Public Information Sessions: Pomperaug Watershed Based Plan
General Notes from Presentations Capturing Participant Comments & Questions

Woodbury 7/17/2018

- Question raised about organic turf management and land care practices and if possible to include recommendations for this in the WBP.
- Discussion around the MS4 permit requirements to reduce impervious areas draining to streams
- Discussion around the limited data set from DEEP and shift in monitoring priorities to public swimming areas and the need for more data to better assess the extent of the impaired areas and better target implementation of best practices.

Southbury 7/18/2018

- Question regarding impacts of road salt on aquatic life and stream health.
- Discussion regarding road construction and the installation of culverts that discharge to streams. Question raised -- is there another way? Answer – Yes, and lead into a discussion of the MS4 permit requirements to reduce impervious areas draining to streams.
- Question raised about the power plant in Oxford and the impact of groundwater withdrawals where water is leaving the basin and noted observations of private, residential wells going dry.
- Red flag was waived regarding the cost barriers to implementing agricultural improvement projects related to manure management, especially when adhering to NRCS design guidelines. Discussion noted that there are several simpler alternative measures that could be implemented using other funding sources and reduced cost barriers.

Bethlehem 7/18/2018

- Question raised about the past use of fertilizers and pesticides on agricultural lands being persistent in the soil and whether or not that affects the ability of the soils to infiltrate rainfall?
- Discussion about Heritage Village possibly serving as a model / demonstration sites for stormwater retrofits and that it might be eligible for 319 funding as it is a private development (not town owned property – outside of municipal storm sewer system?)
- Audience member provided an example from Arcata, California where plants and other biota are being used in wastewater treatment process (instead of traditional sewage treatment plant)
- Question / comment made about ability to integrate less reflective surfaces into LID retrofits to limit nighttime light reflection back into the sky (i.e. light pollution concern)



Public Information Meeting

Pomperaug River Watershed Based Plan

July 17 & 18, 2018



Meeting Agenda

1. Welcome and Introductions
2. Update of Pomperaug River Watershed Management Plan
3. Water Quality Conditions
4. Land Use and Other Watershed Characteristics
5. Watershed Assessments
6. Initial Recommendations for Improving Water Quality
7. Next Steps
8. Discussion



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.

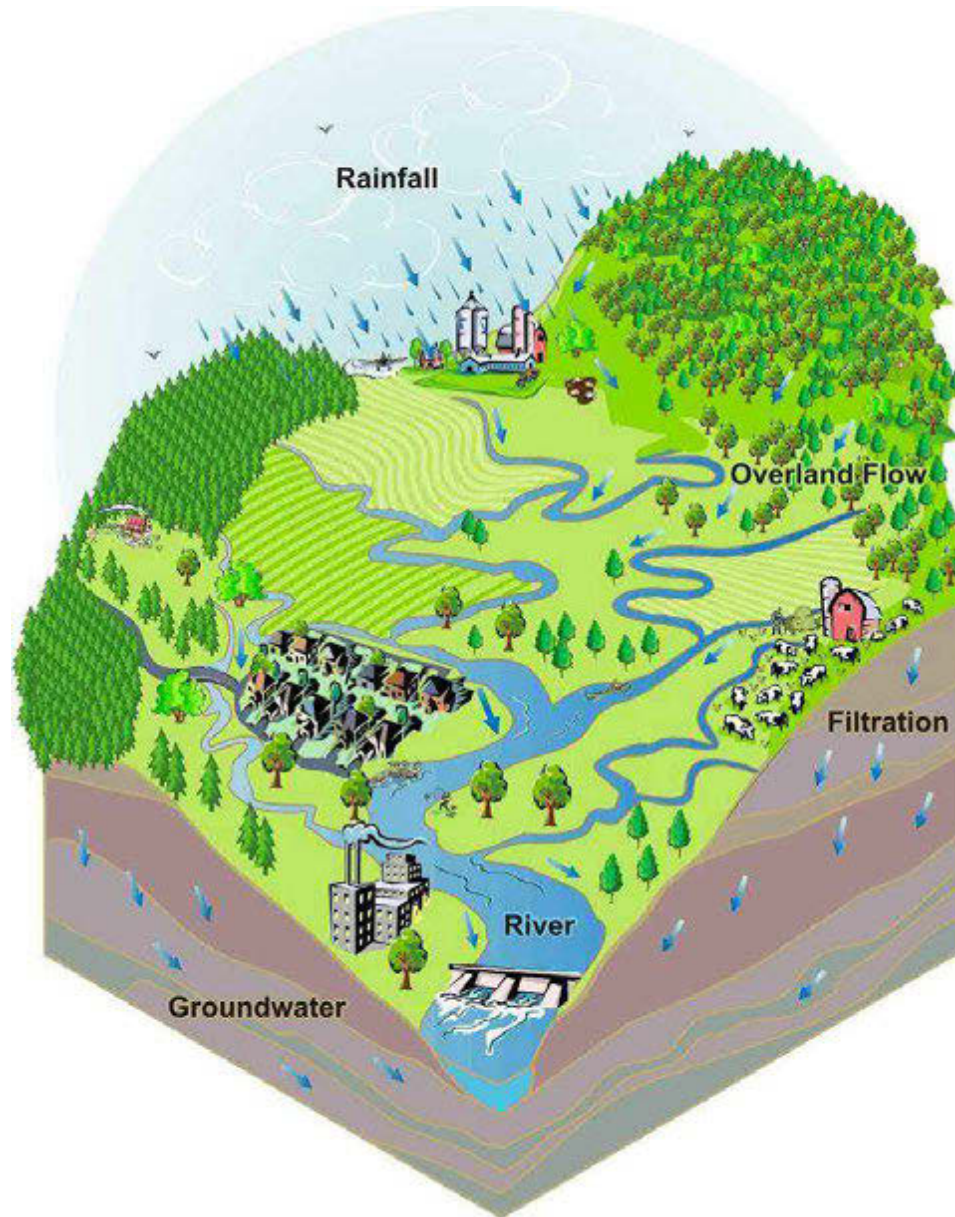


Purpose of Meeting

- Describe the watershed plan update process
- Summarize watershed conditions and issues
- Provide a forum for public input and discussion
 - Issues of concern
 - Local priorities
 - Project ideas



What is a Watershed?



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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page 1

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

PO Box 141
Southbury, Connecticut 06488
Cris Schaefer, Executive Director

Telephone: 203-267-1700
Email: info@pomperaug.org
Web: www.pomperaug.org



Watershed Based Plan Objectives

- Update baseline conditions in the watershed
- Identify existing water quality issues and pollutant sources
- Identify water quality monitoring needs
- Engage watershed municipalities and the public
- Prioritize projects to improve and protect water quality
- Improve water quality and de-list “impaired” waters



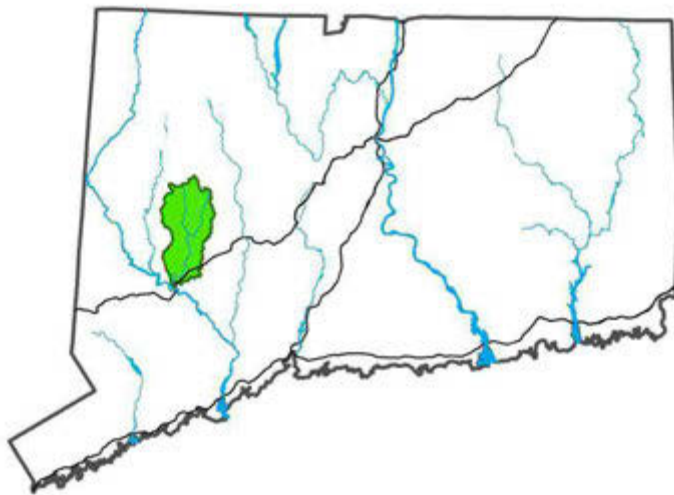
Pomperaug River Watershed Overview

- 90 square miles
- Portions of 8 towns
- 7 major subwatersheds
- Major tributaries

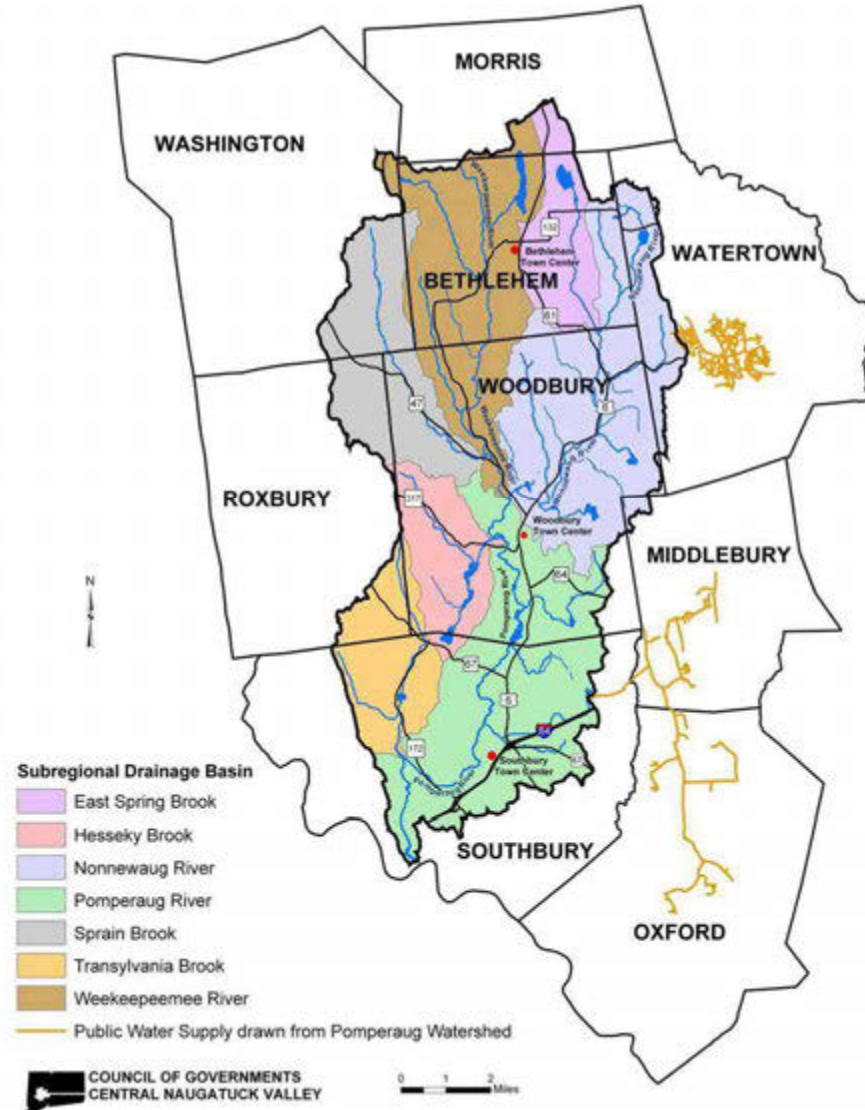


Pomperaug River Watershed Overview

- 90 square mile Regional Basin
- Portions of 8 towns
- 7 major Subregional Basins
- Major tributaries

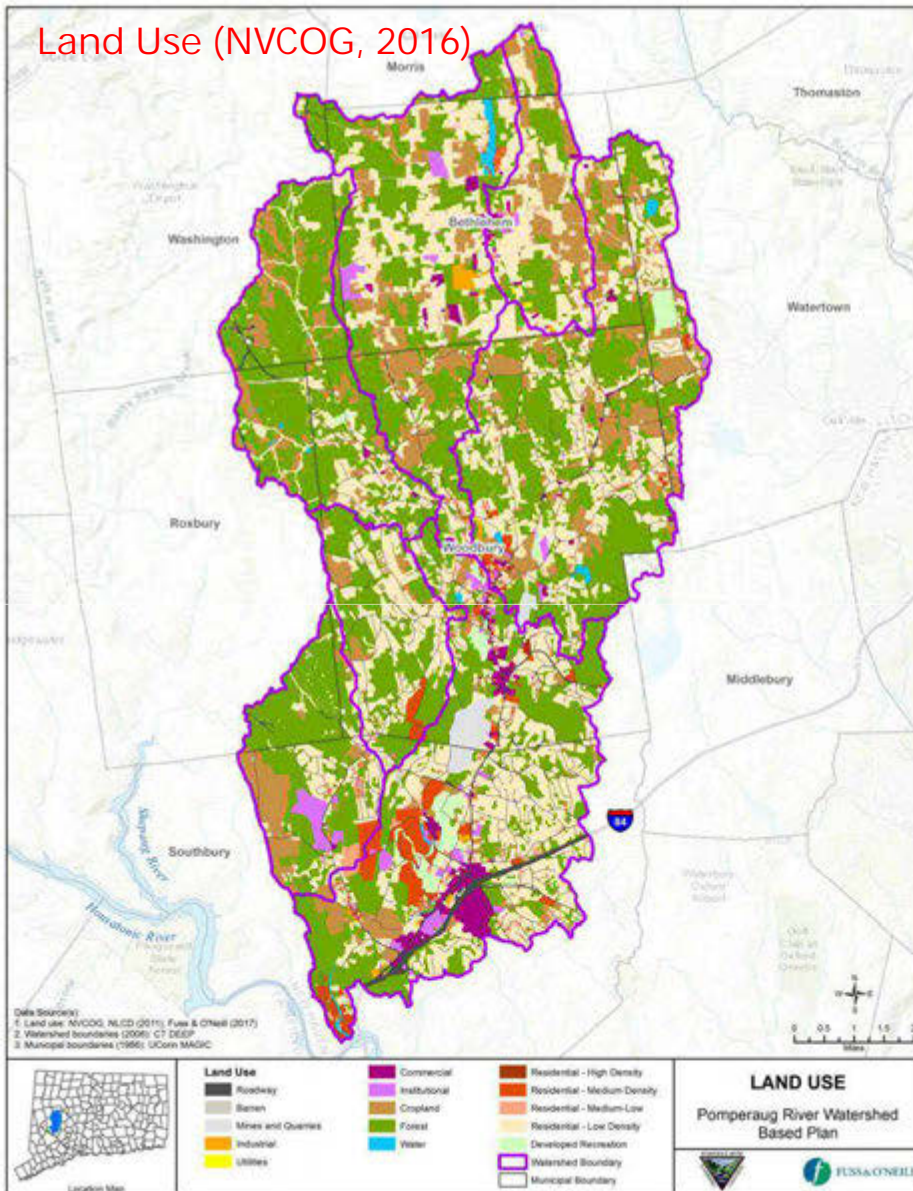


Subregional Drainage Basins
of the Pomperaug River Watershed

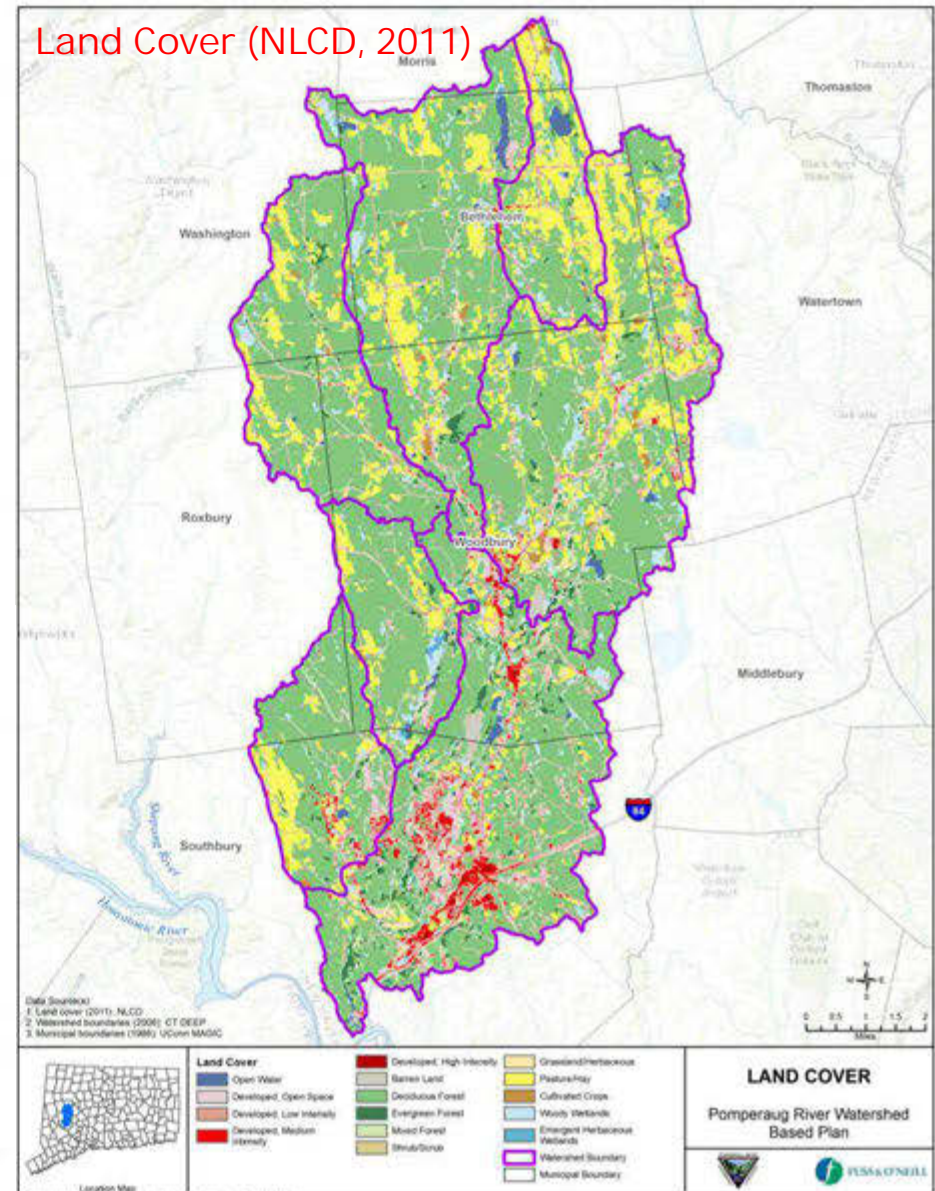


Land Use / Land Cover

Land Use (NVCOG, 2016)



Land Cover (NLCD, 2011)



Land Use / Land Cover

Land Cover	Area (sq mi)	Percent of Watershed
Open Water	0.7	0.8
Developed, Open Space	7.2	8.1
Developed, Low Intensity	3.5	3.9
Developed, Medium Intensity	1.1	1.2
Developed, High Intensity	0.2	0.2
Barren Land	0.3	0.4
Deciduous Forest	53.6	60.3
Evergreen Forest	1.5	1.7
Mixed Forest	1.3	1.5
Shrub/Scrub	1.6	1.8
Grassland/Herbaceous	0.5	0.6
Pasture/Hay	13.6	15.3
Cultivated Crops	0.5	0.6
Woody Wetlands	3.0	3.3
Emergent Herbaceous Wetlands	0.3	0.3
Total	89.0	100.0

- Top three land cover types:
 - Forest, Pasture/Hay, Developed
- Top three land uses:
 - Forest, Cropland, Low-density residential

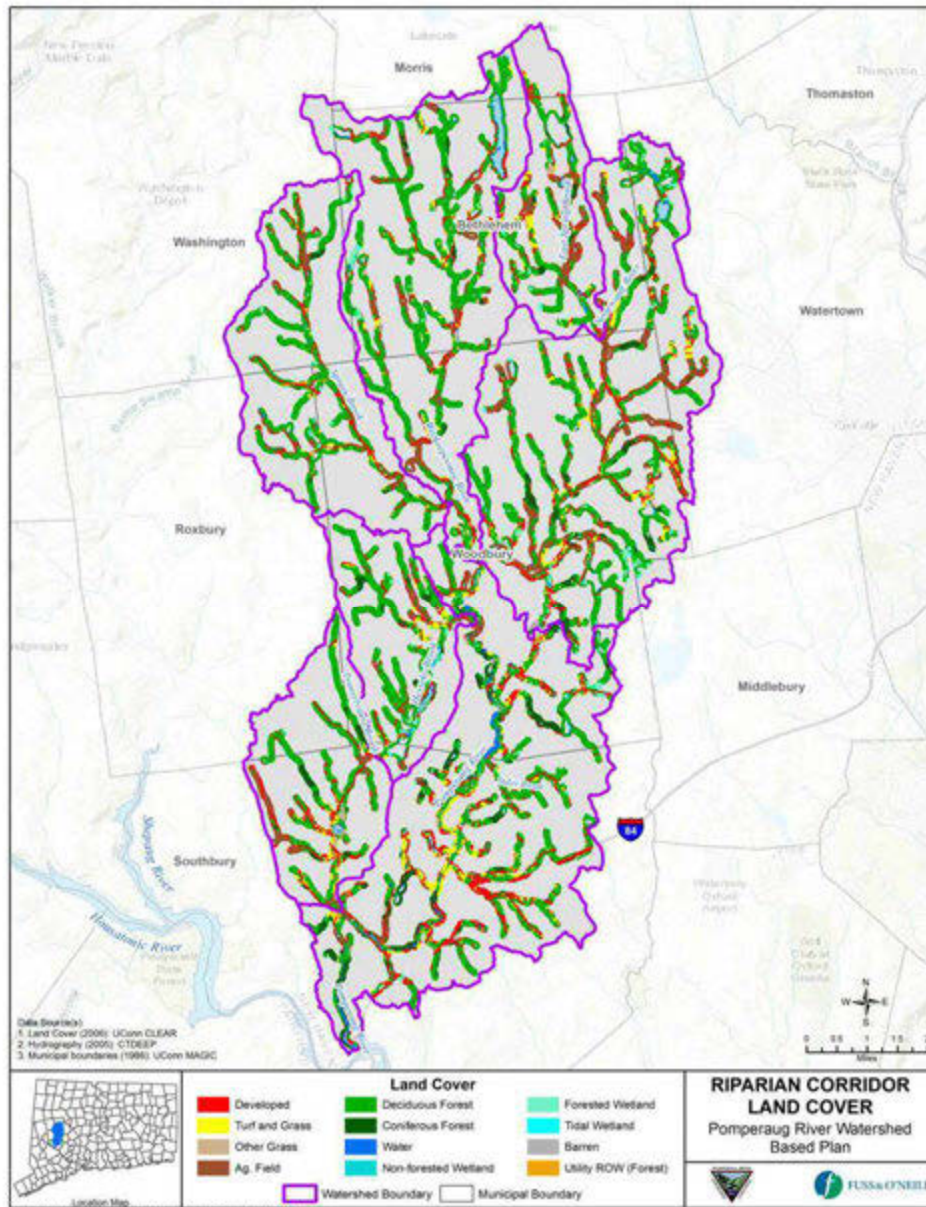
Land Use	East Spring Brook	Hesseky Brook	Nonewaig River	Pomperaug River	Sprain Brook	Transylvania Brook	Weekeepeemee River	Pomperaug Average
Barren	0.0	0.0	0.0	0.2	0.3	0.1	0.0	0.1
Commercial	1.4	0.0	0.6	4.8	0.2	0.1	1.4	1.2
Cropland	29.3	7.2	18.7	5.1	15.2	16.7	17.2	15.8
Developed Recreation	0.0	0.0	1.5	3.3	0.4	0.1	0.1	0.8
Forest	26.0	45.8	39.9	30.1	63.8	53.4	43.2	43.6
Industrial	0.2	0.0	0.2	0.4	0.0	0.0	0.9	0.2
Institutional	1.2	0.1	0.4	2.2	0.0	5.1	2.0	1.6
Mines and Quarries	0.0	0.0	0.6	3.0	0.0	0.0	0.0	0.5
Residential - High Density	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Residential - Low Density	37.0	39.2	30.0	34.1	17.4	16.8	30.0	29.5
Residential - Medium Density	0.4	2.9	0.9	6.4	0.0	1.7	0.5	1.9
Residential - Medium-Low	1.0	1.1	1.3	2.8	0.2	3.1	0.6	1.5
Roadway	0.3	3.9	3.3	7.1	2.0	2.8	1.0	2.9
Utilities	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water	0.0	0.0	0.5	0.4	0.2	0.0	1.1	0.3
Total	97	100	98	100	100	100	98	100.0

Top 3 land uses by percent in red

Totals less than 100% are the result of parcel-based land cover, which does not include roadways in Bethlehem



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

Riparian Corridor Land Cover

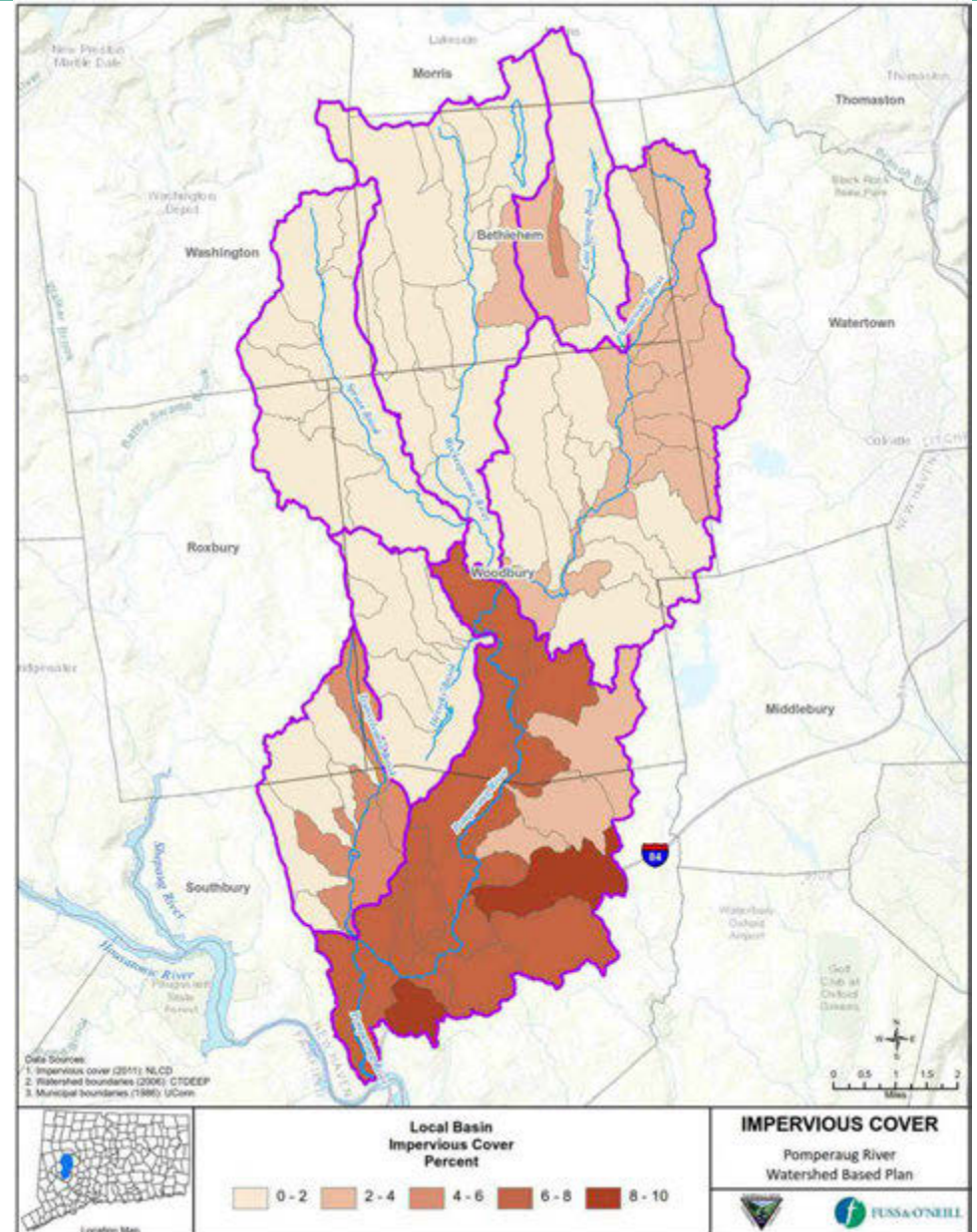
- Mostly forest and wetland
- Pomperaug Subregional Basin more developed than agricultural
- Other Subregional Basins show the opposite pattern

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

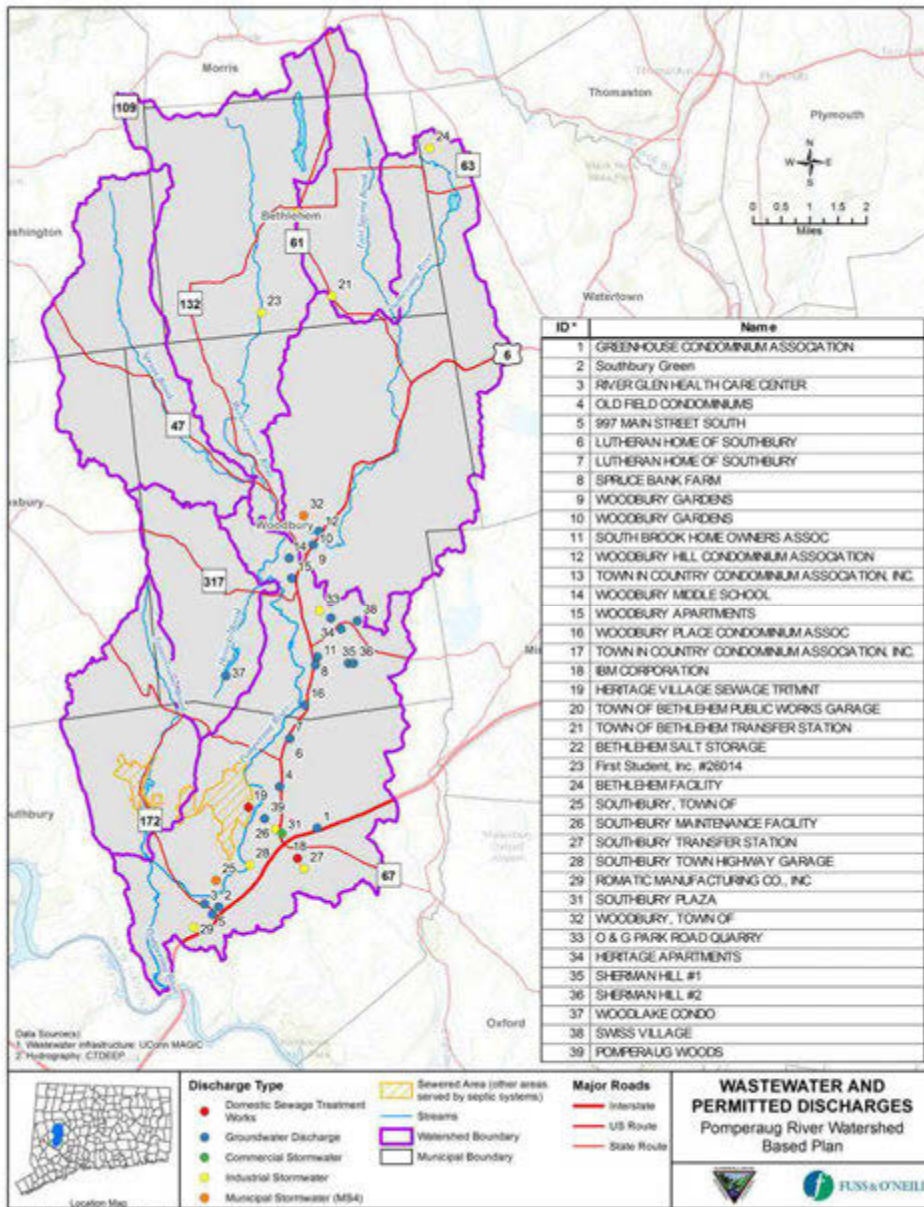
- Analyzed by CT Local Basins and Subregional Basins
- All Subregional Basins below 10% IC threshold
- Most Subregional Basins in 6-10% range
- Several Subregional Basins in 8-10% range



Wastewater and Other Permitted Discharges

- CTDEEP

- Point discharges (versus nonpoint)
- Discharge permits database, 2016
- Sewered area, 1997

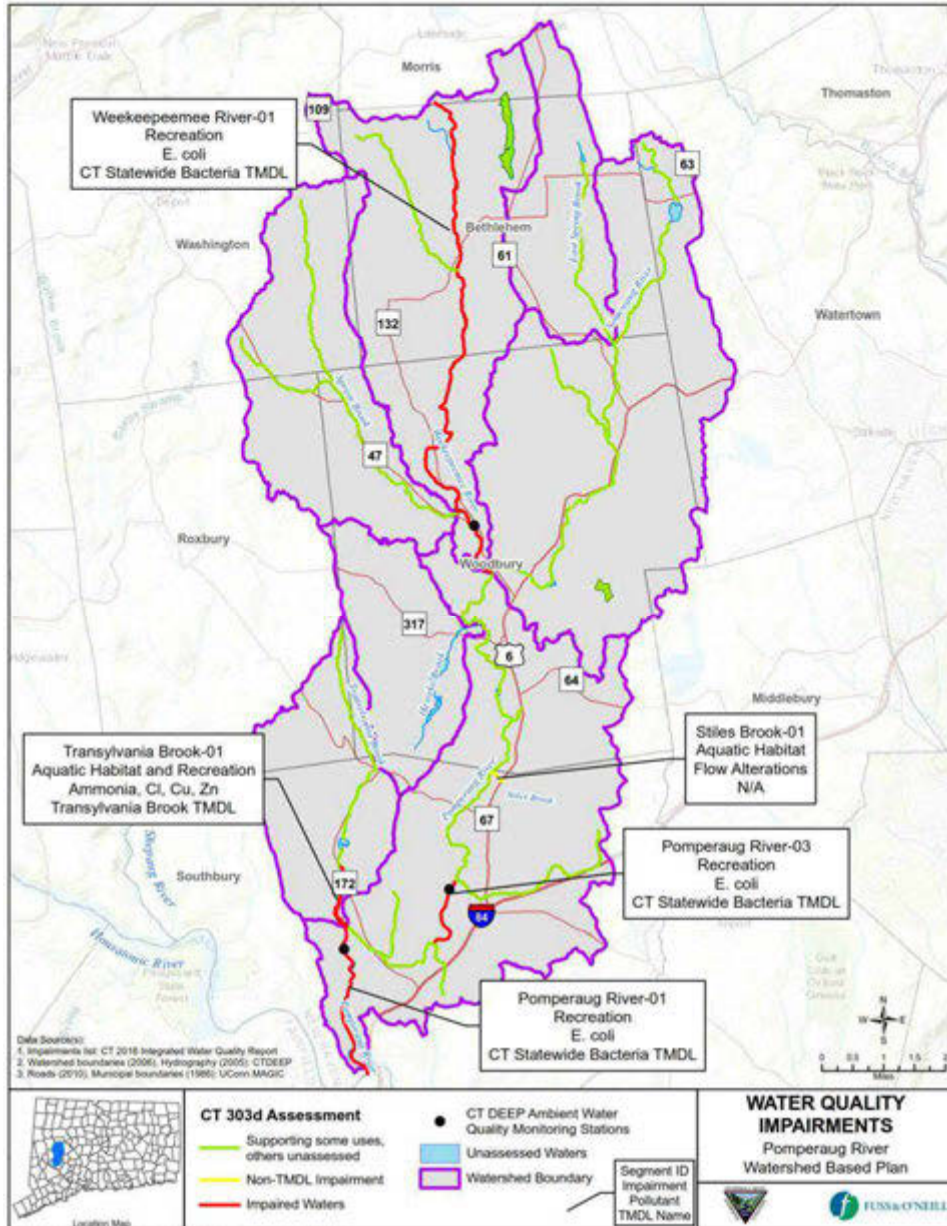


Wastewater and Other Permitted Discharges

- 39 permitted dischargers
 - Sewage treatment plants
 - Subsurface sewage disposal (septic) systems
 - Commercial, industrial, municipal stormwater discharges
- 2 sewage treatment plants
 - Heritage Village
 - IBM Campus
- Several apartments/condos with large septic systems
- Quarries



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

Water Quality Impairments

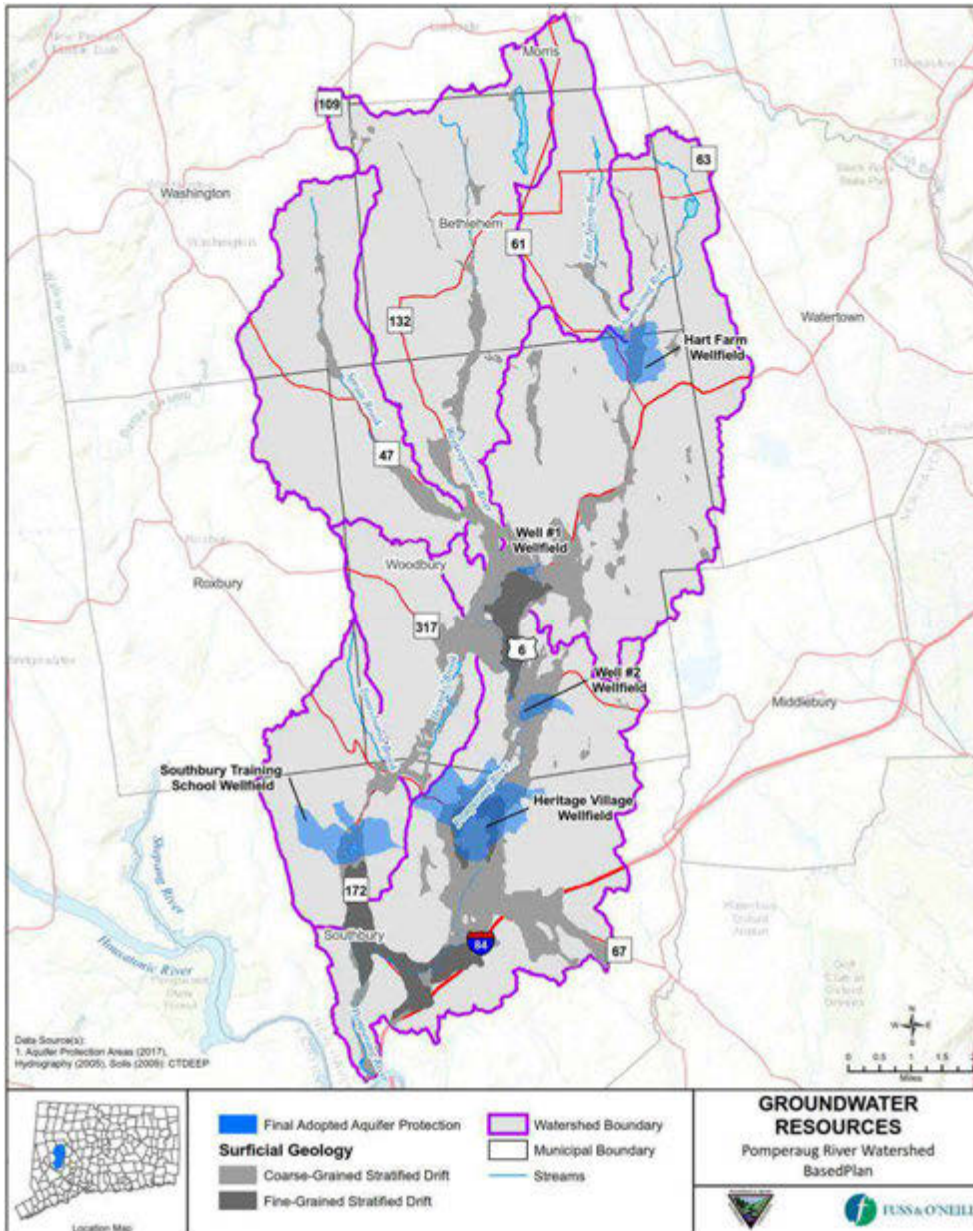
- Five impaired segments
 - Pomperaug River (2)
 - Weekepeemee River
 - Transylvania Brook (3)
 - Stiles Brook
- State-wide Bacteria TMDL
 - Pomperaug River
 - Weekepeemee River
- Transylvania Brook TMDL

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
Weekepeemee 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



Groundwater Resources

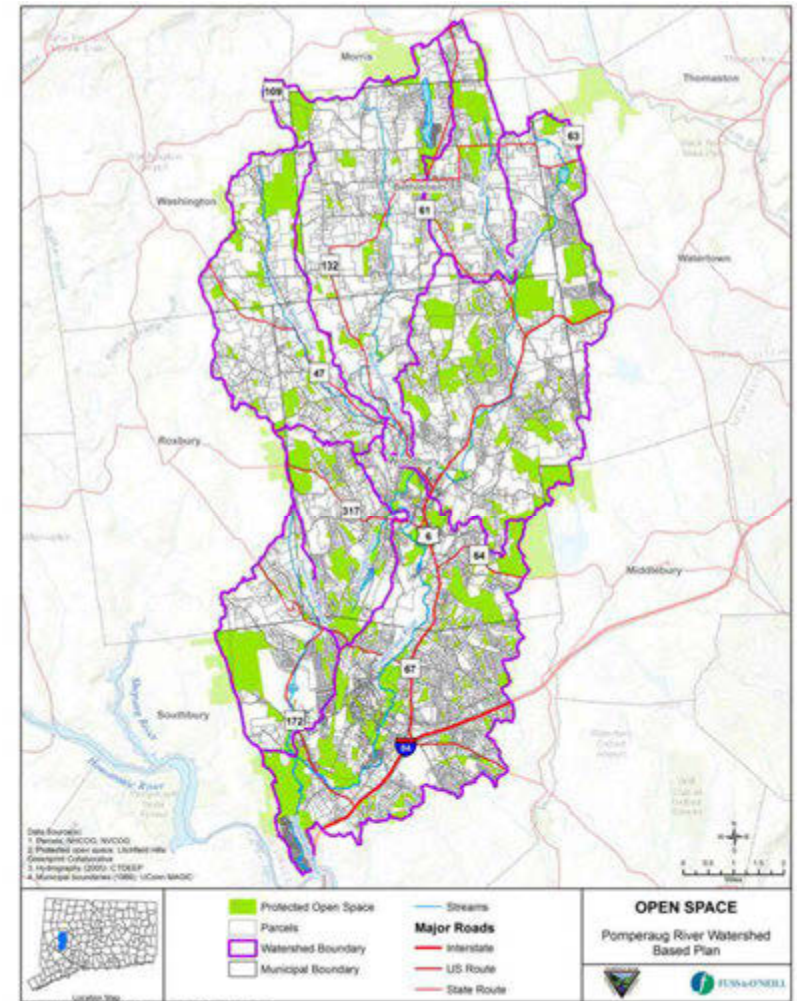
- CTDEEP
 - Aquifer protection areas, 2017
 - Stratified drift soils, 2009
- Significant prior study of groundwater resources in the watershed



Committed Open Space

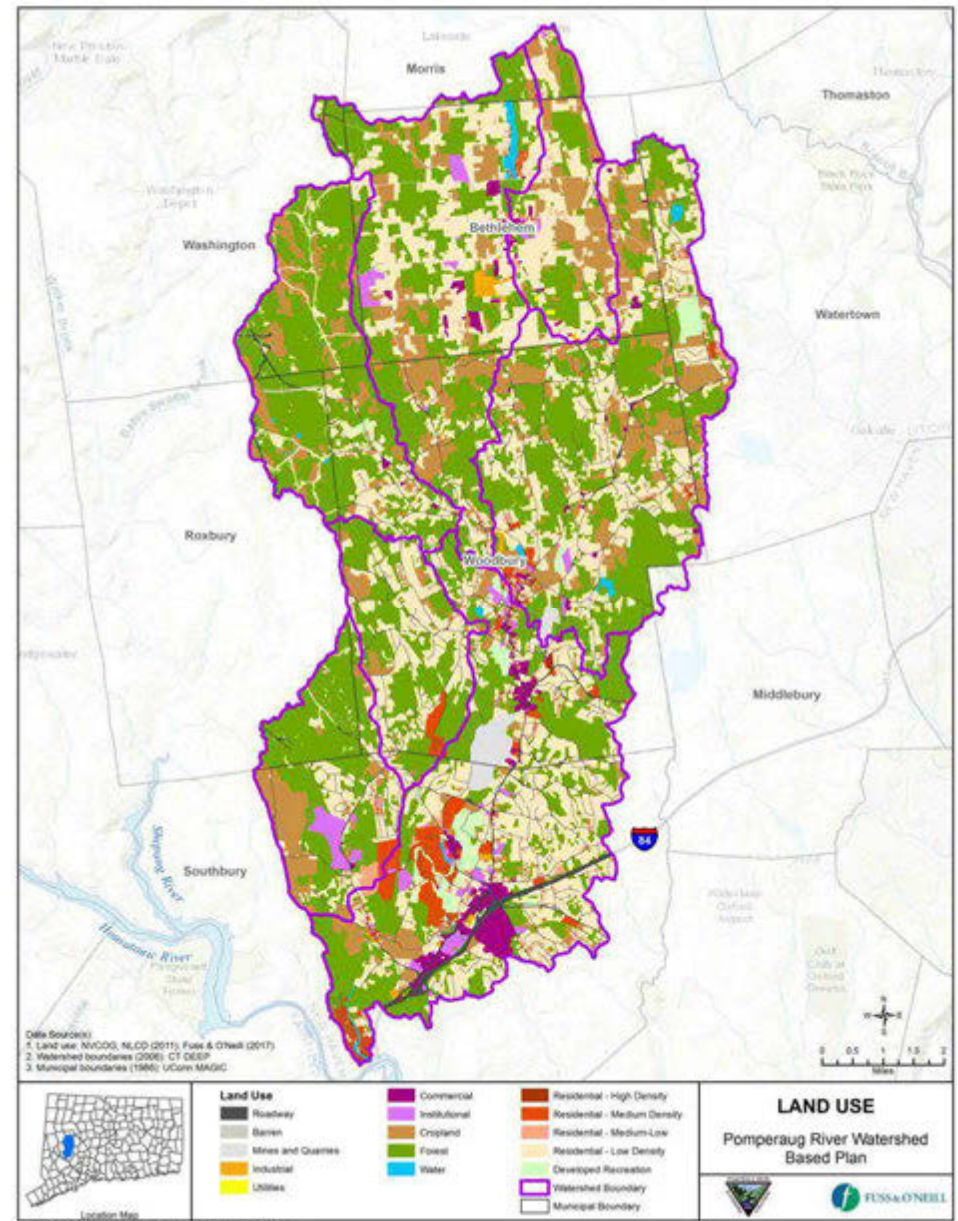
- Most large, undeveloped tracts in the watershed are already protected

Subwatershed	Committed Open Space (sq mi)	Committed Open Space (percent)
East Spring Brook	0.92	15.8
Hesseky Brook	1.40	22.5
Nonewaug River	3.90	18.3
Pomperaug River	4.26	19.9
Sprain Brook	1.56	14.3
Transylvania Brook	1.25	17.4
Weekeepeemee River	1.25	7.8
Total	14.54	16.3



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.



Event Mean Concentrations

- Developed Land Use

Land Use	WTM Default Values				Regional Values				Selected Values			
	TN	TP	TSS	FC	TN	TP	TSS	FC	TN	TP	TSS	FC
Low Density Residential	2.1	0.31	49	20,000	3.18	0.27	34	2,950	3.18	0.27	34	2,950
Medium Density Residential	2.1	0.31	49	20,000	3.5	0.41	49	12,360	3.5	0.41	49	12,360
High Density Residential	2.1	0.31	49	20,000	3.81	0.64	102	16,901	3.81	0.64	102	16,901
Highway	-	-	-	-	2.65	0.43	141	600	2.65	0.43	141	600
Commercial	2.1	0.22	43	20,000	1.85	0.15	44	9,306	1.85	0.15	44	9,306
Institutional	2.1	0.22	43	20,000	1.85	0.15	44	9,306	1.85	0.15	44	9,306
Industrial	2.2	0.25	81	20,000	4	0.11	42	1,467	4	0.11	42	1,467
Mining	-	-	-	-	1.18	0.15	94	300	1.18	0.15	94	300



Export Coefficients

- Rural Land Use



Land Use	WTM Default Values				Regional Values				Selected Values				Comments
	TN	TP	TSS	FC	TN	TP	TSS	FC	TN	TP	TSS	FC	
Forest	2.0	0.2	100	12	2.5	0.2	100	12	2.5	0.2	100	12	Selected regional values
Rural	4.6	0.7	100	39	-	-	-	-	4.6	0.7	100	39	Selected WTM Default values
Power Lines	4.6	0.7	100	39	-	-	-	-	4.6	0.7	100	39	Selected WTM Default values
Open Water	12.8	0.5	155	-	0.4 (2)	0.03 (2)	2 (2)	0.4 (2)	0.4	0.03	2	0.4	Selected regional values
Cropland	-	-	-	-	Pasture 1.9 (2) 7.7 (3) 5.6 (4)	Pasture 0.1 (2) 1.3 (3) 0.5 (4)	Pasture 47 (2) 591 (4)	Pasture 7 (2)	10	0.8	300	39	Selected TN, TP, and TSS based on regional sources for pasture and row crops; FC assumed same as Rural land use
					Row Crops 14.4 (3) 15.7 (4)	Row Crops 4.0 (3) 0.94 (4)	Row Crops 1997 (4)	Row Crops -					

Livestock Pollutant Source

- Export Coefficients

Livestock Type	Nitrogen ¹ (lbs/animal/year)	Phosphorus ¹ (lbs/animal/year)	E. coli (billion cfu/AU/year)
Cows	164	26	1,966
Horses	102	18	84
Sheep	18.5	3.2	7,165
Poultry	1.1	0.4	85

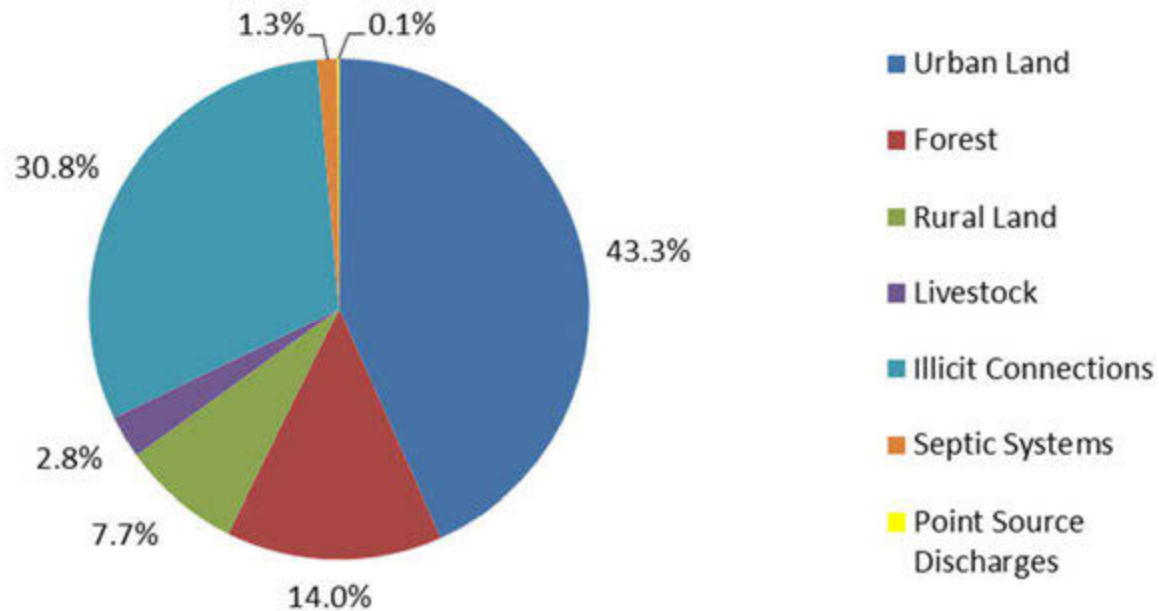
- Estimated Number of Livestock

Livestock Type	East Spring Brook	Hesseky Brook	Nonnewaug River	Pomperaug River	Sprain Brook	Transylvania Brook	Weekeepeemee River
Cows	20	175	450	100	15	40	150
Horses	60	40	50	100	15	25	40
Sheep	25	40	25	15	0	0	40
Poultry	30	75	50	50	250	25	50



Modeled Relative Bacteria Sources

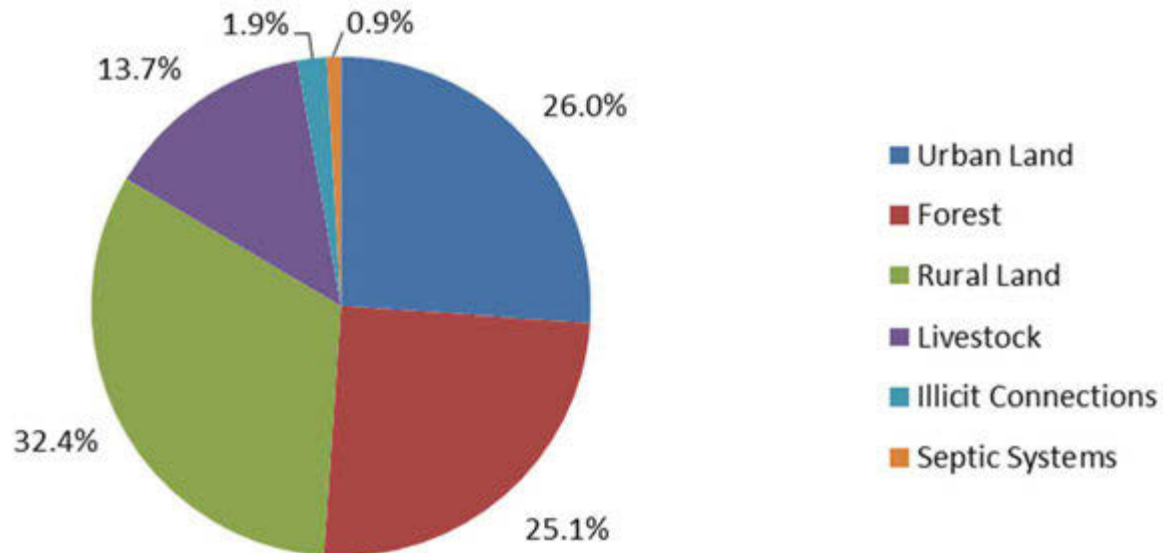
Pomperaug Subwatershed



- 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

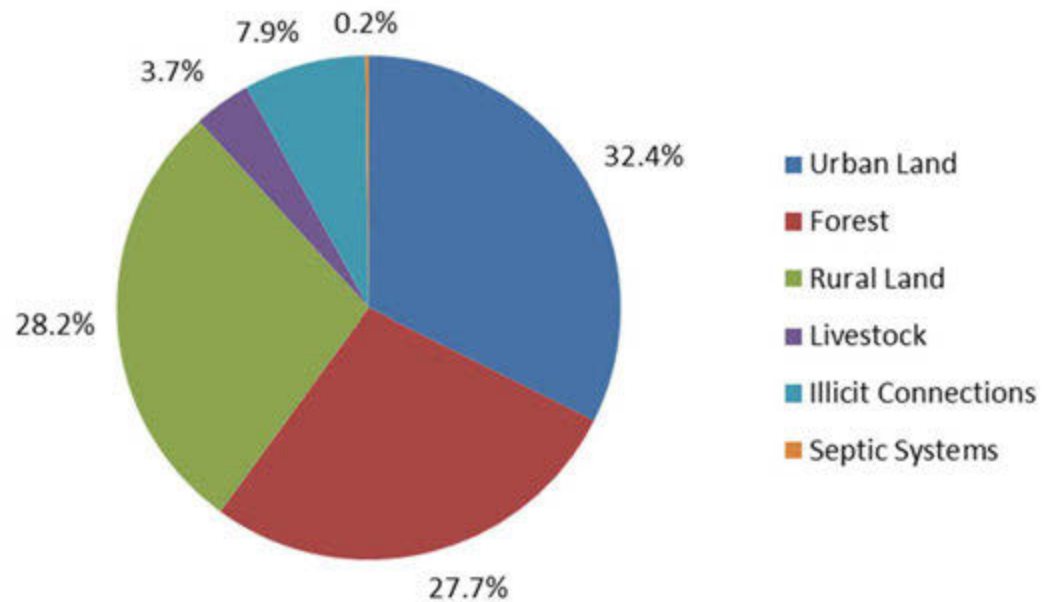
Weekeepeemee Subwatershed



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

Modeled Relative Bacteria Sources

Transylvania Brook



- Stormwater runoff from mix of agricultural and developed land uses

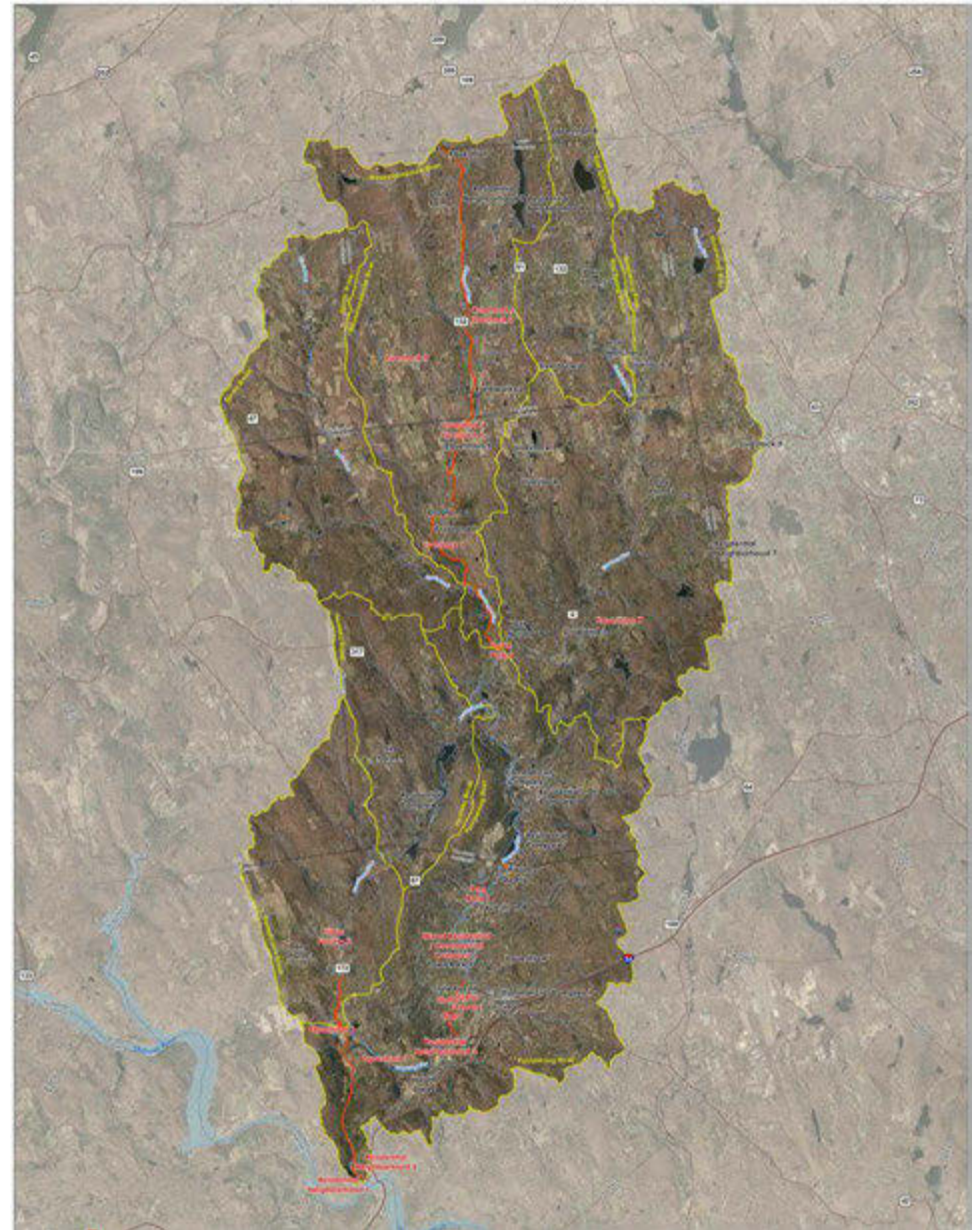
Visual Field Assessments

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



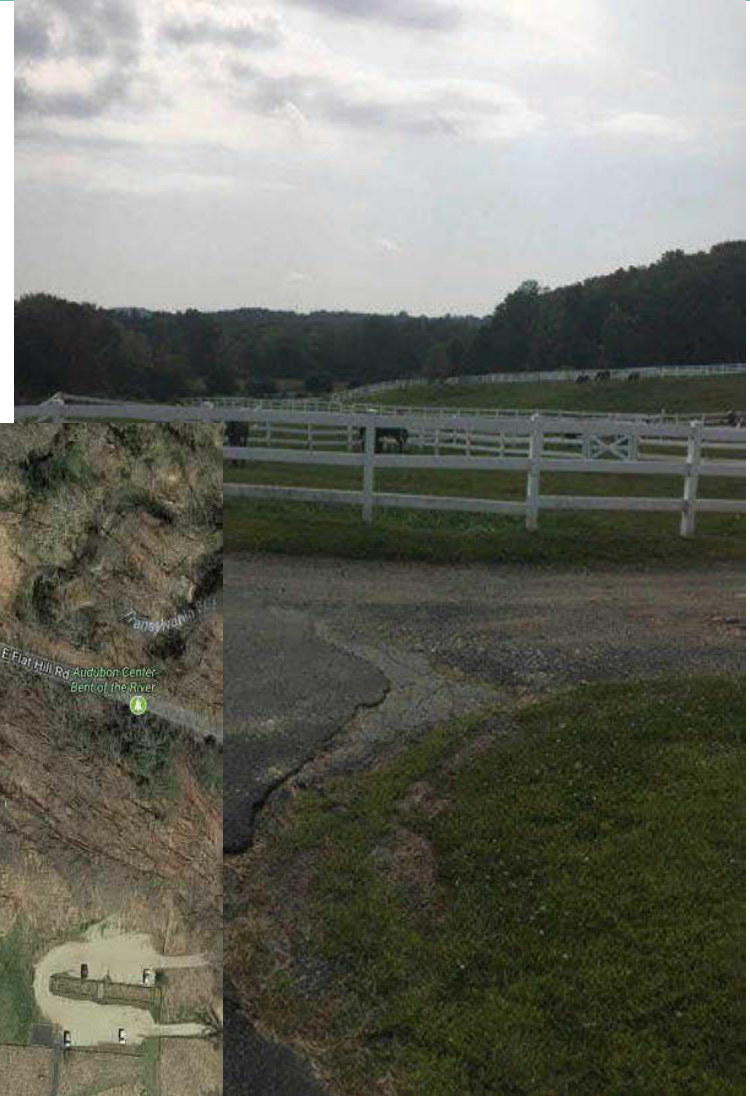
Pollution Hotspots/ Areas of Concern

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



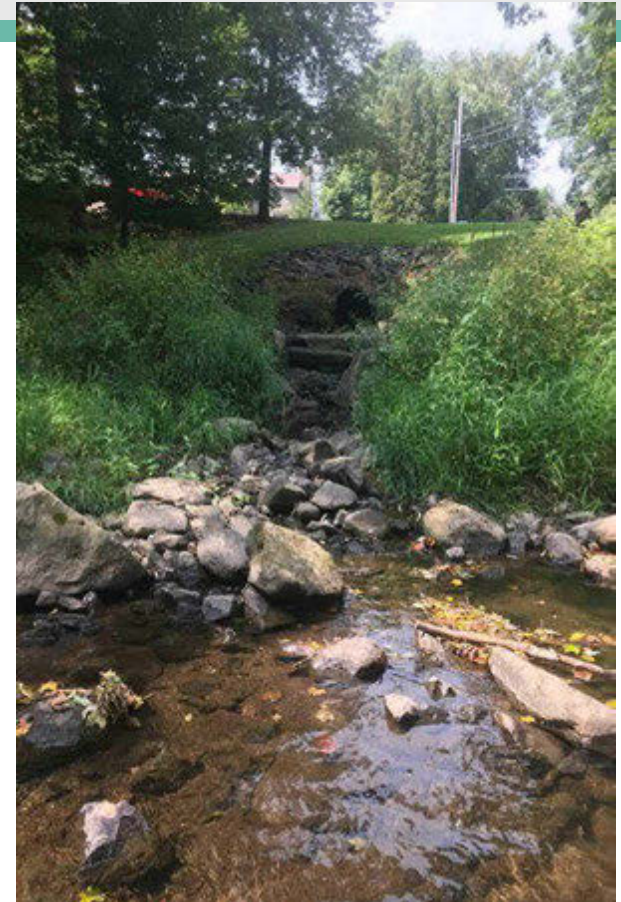
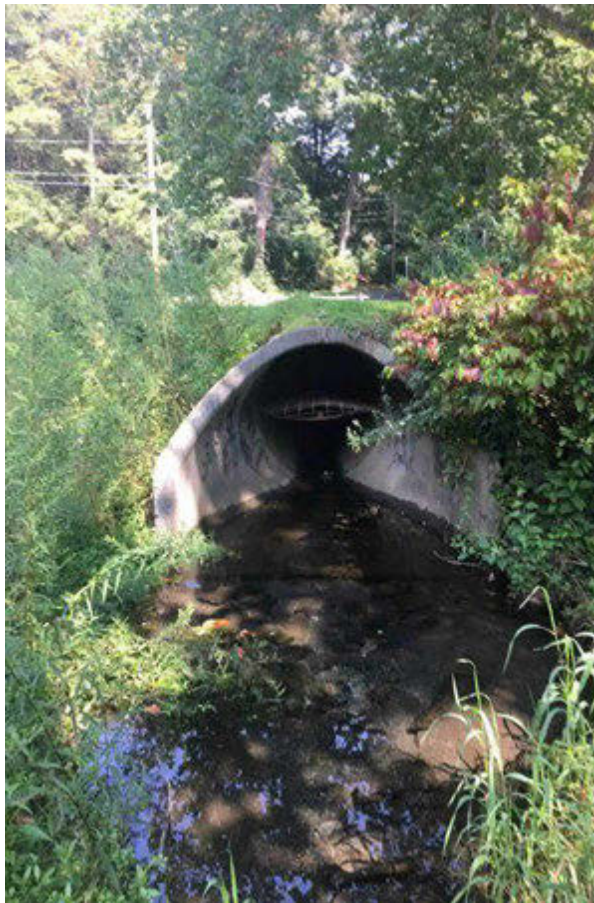
Reach Assessment Results

- Pomperaug-01
 - Potential sources
 - Equestrian Center
 - Stormwater



Reach Assessment Results

- Pomperaug-03
 - Potential sources
 - Geese
 - Stormwater
 - WWTP
 - Septic



Reach Assessment Results

- Weekepeemee-01
 - Runoff from pastures and Paddocks



Neighborhood Assessment Results

- Residential Neighborhoods 1 and 2
 - Stormwater
 - Septic



Neighborhood Assessment Results

- Mixed Residential/Commercial Complex 1
 - Stormwater
 - WWTP
 - Geese



Neighborhood Assessment Results

- Mixed Residential/Commercial Complex 1
 - Stormwater
 - WWTP
 - Geese



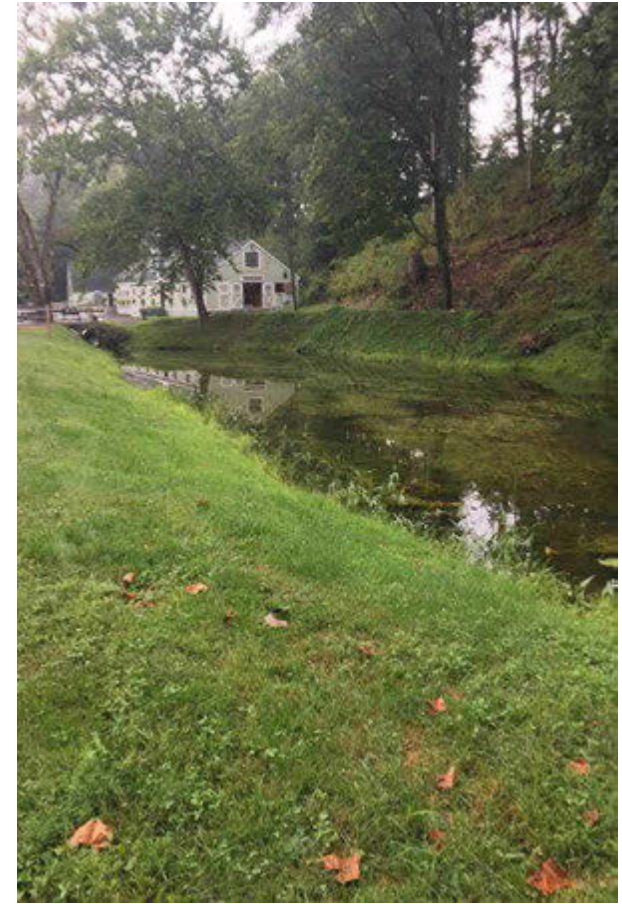
Hotspot Assessment Results

- Equestrian 2
 - Manure piles
 - Front Paddock Area
 - Farm Pond



Hotspot Assessment Results

- Equestrian 2



Hotspot Assessment Results

- Dairy Farm 2
 - Direct livestock access to tributaries
 - Buffer
 - Manure handling



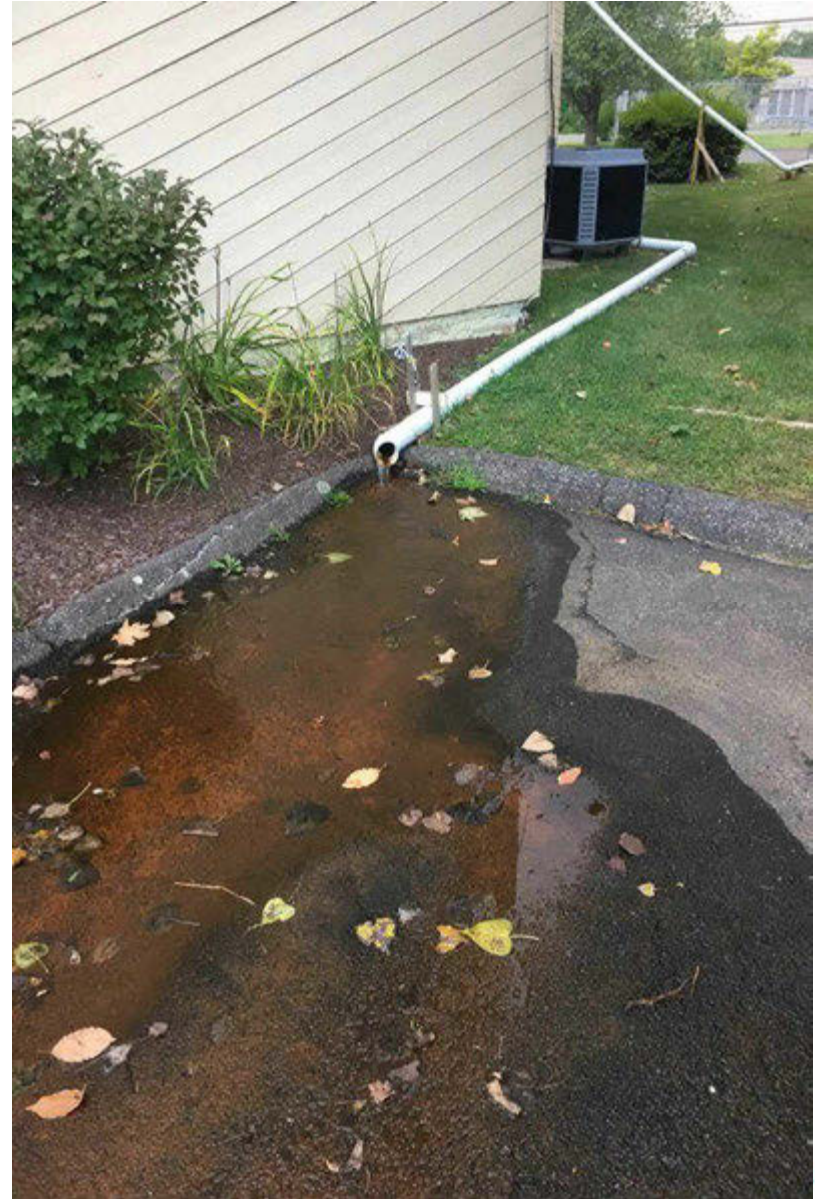
Hotspot Assessment Results

- Dairy Farm 2
 - Direct livestock access to tributaries
 - Buffer
 - Manure handling



Hotspot Assessment Results

- Medical Office Building
 - Dry weather flows

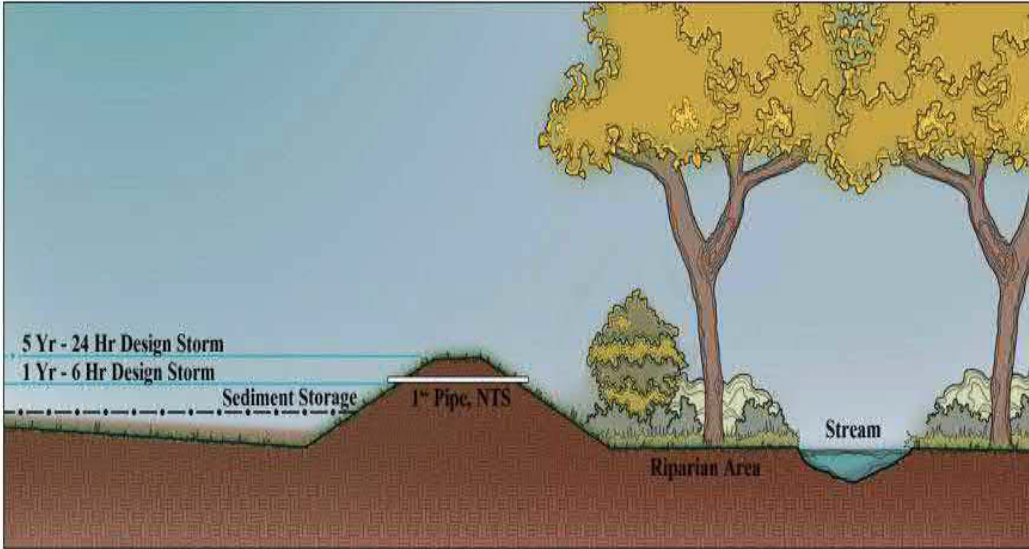
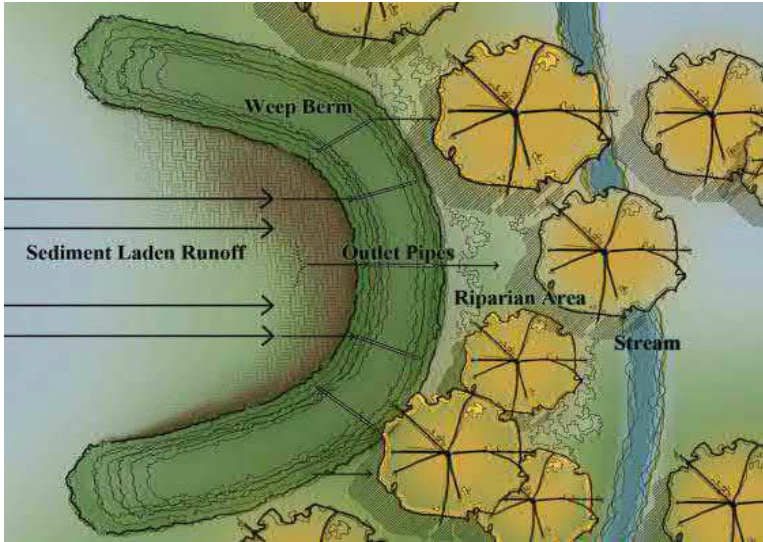


Best Management Practices (BMPs)

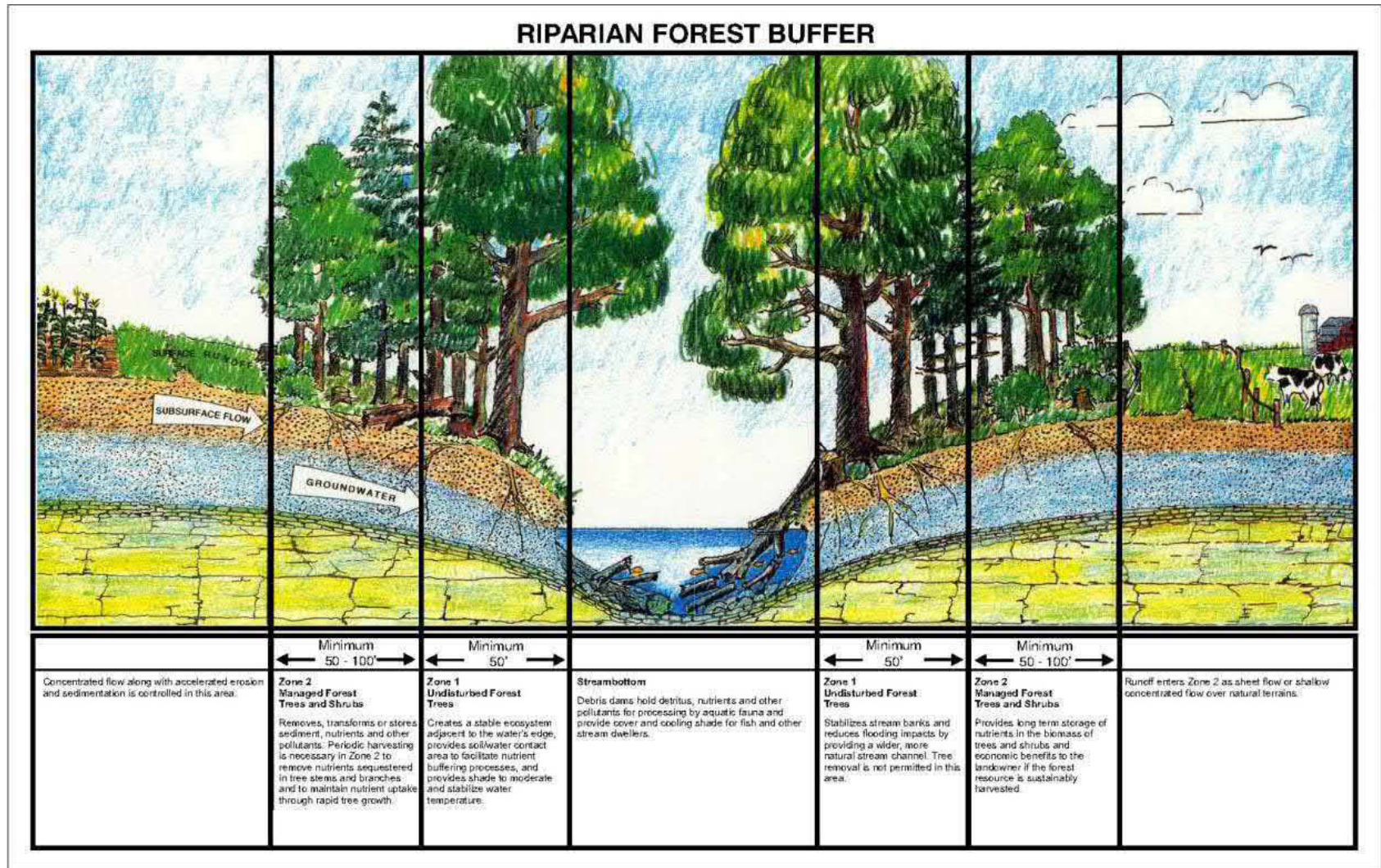
- **Agricultural BMPs**
 - Filter berms
 - Increased riparian buffer
- **Structural stormwater BMPs**
 - Infiltration systems
 - Bioretention systems
 - Underground solutions
- **Non-structural BMPs**
 - Geese management
 - Septic system management and outreach
 - Illicit discharge detection and elimination (IDDE)
 - Manure/nutrient management
 - Land use regulatory controls



Filter Berms



Increased Riparian Buffer

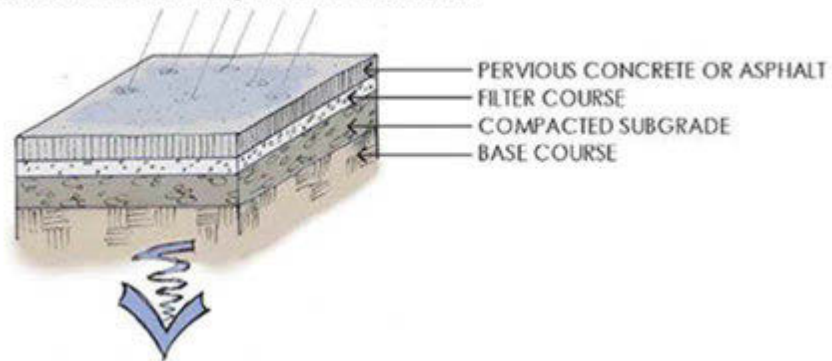


Adapted from Welsch (*Riparian*)

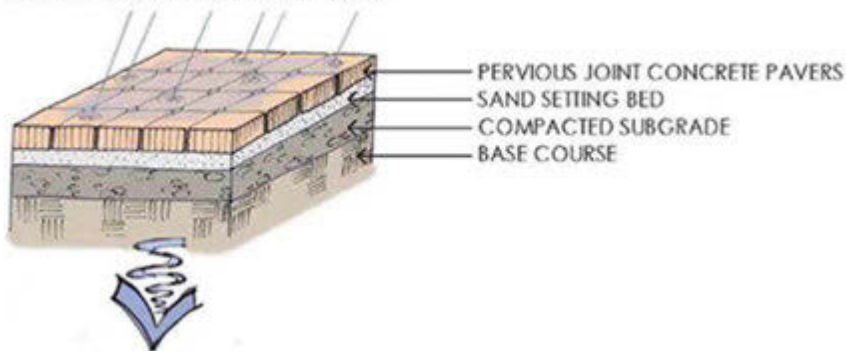
Structural Stormwater BMPs

- Permeable Pavement

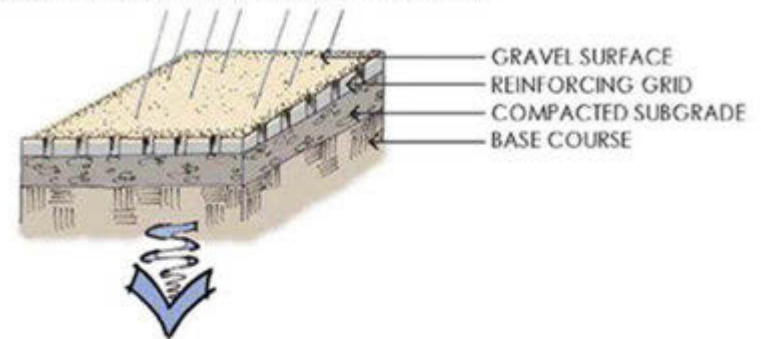
PERVIOUS CONCRETE/ASPHALT DIAGRAM



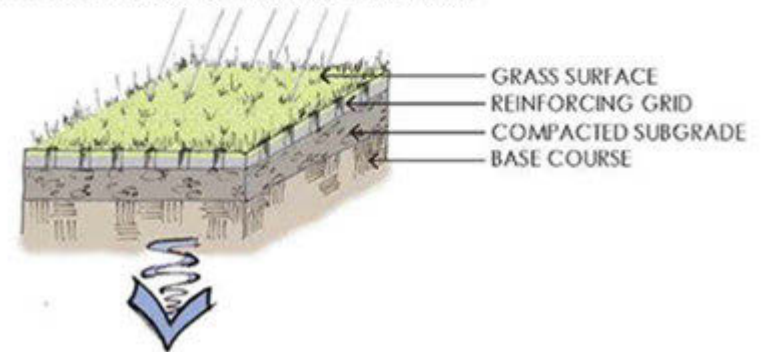
PERVIOUS JOINT PAVER DIAGRAM



REINFORCED GRAVEL PAVING DIAGRAM



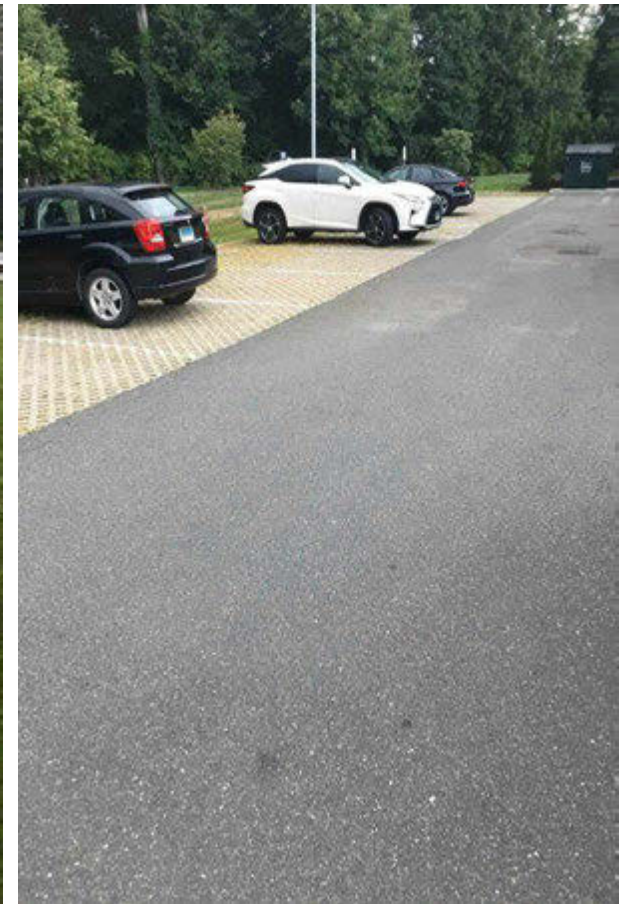
REINFORCED GRASS PAVING DIAGRAM



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

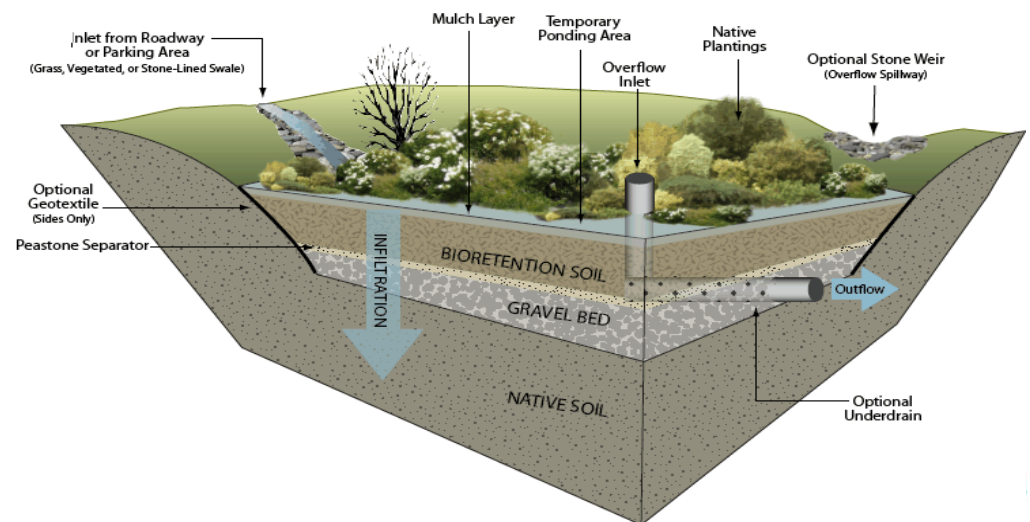
Structural Stormwater BMPs

- Permeable Pavement



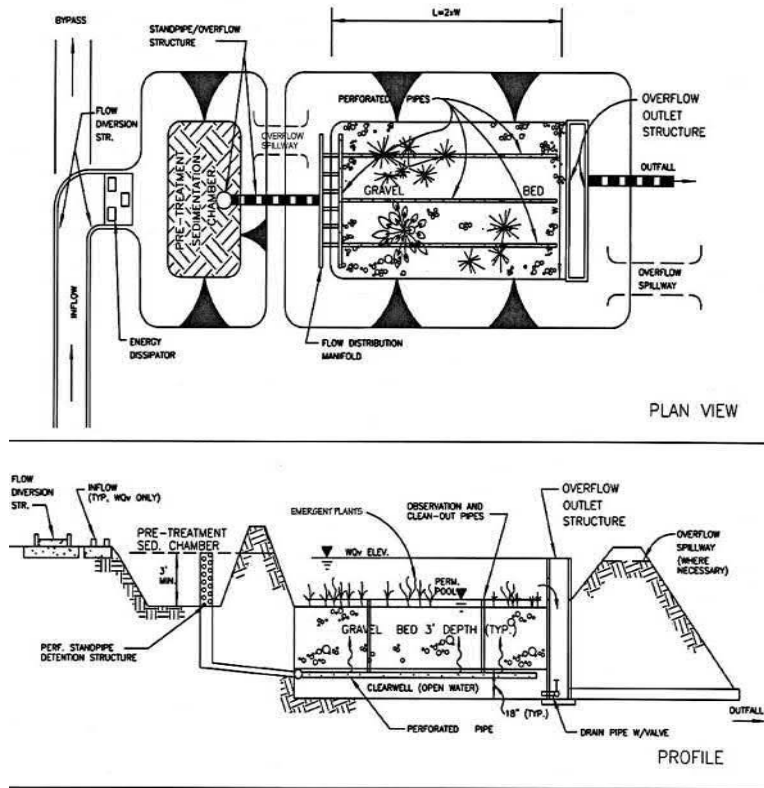
Structural Stormwater BMPs

- Bioretention/Infiltration



Structural Stormwater BMPs

- Vegetated Treatment Systems



Structural Stormwater BMPs

- Underground solutions
 - Parking lots
 - Public right-of-way



Structural BMP Opportunities

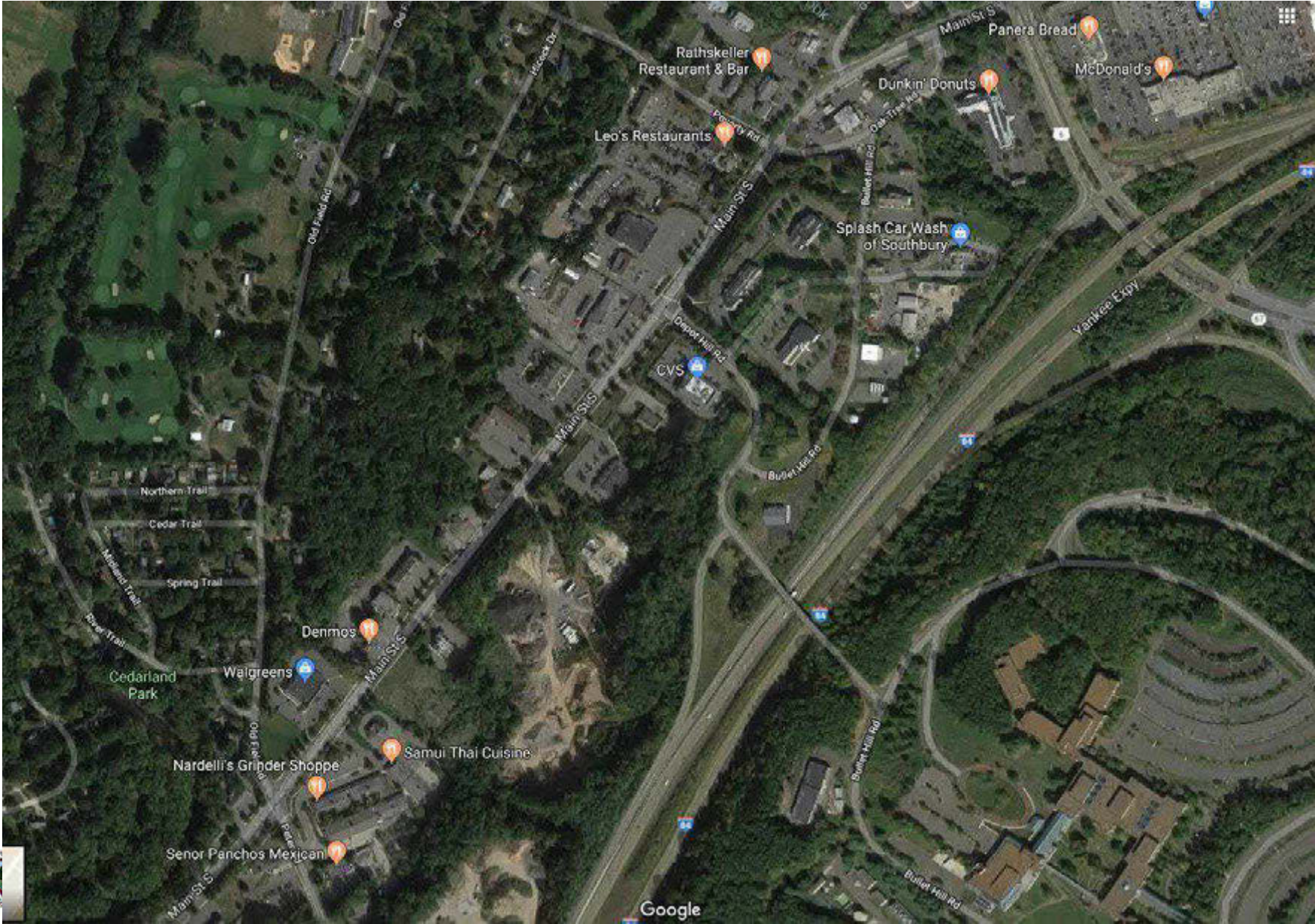
- Heritage Village
- Main Street South Corridor, Southbury



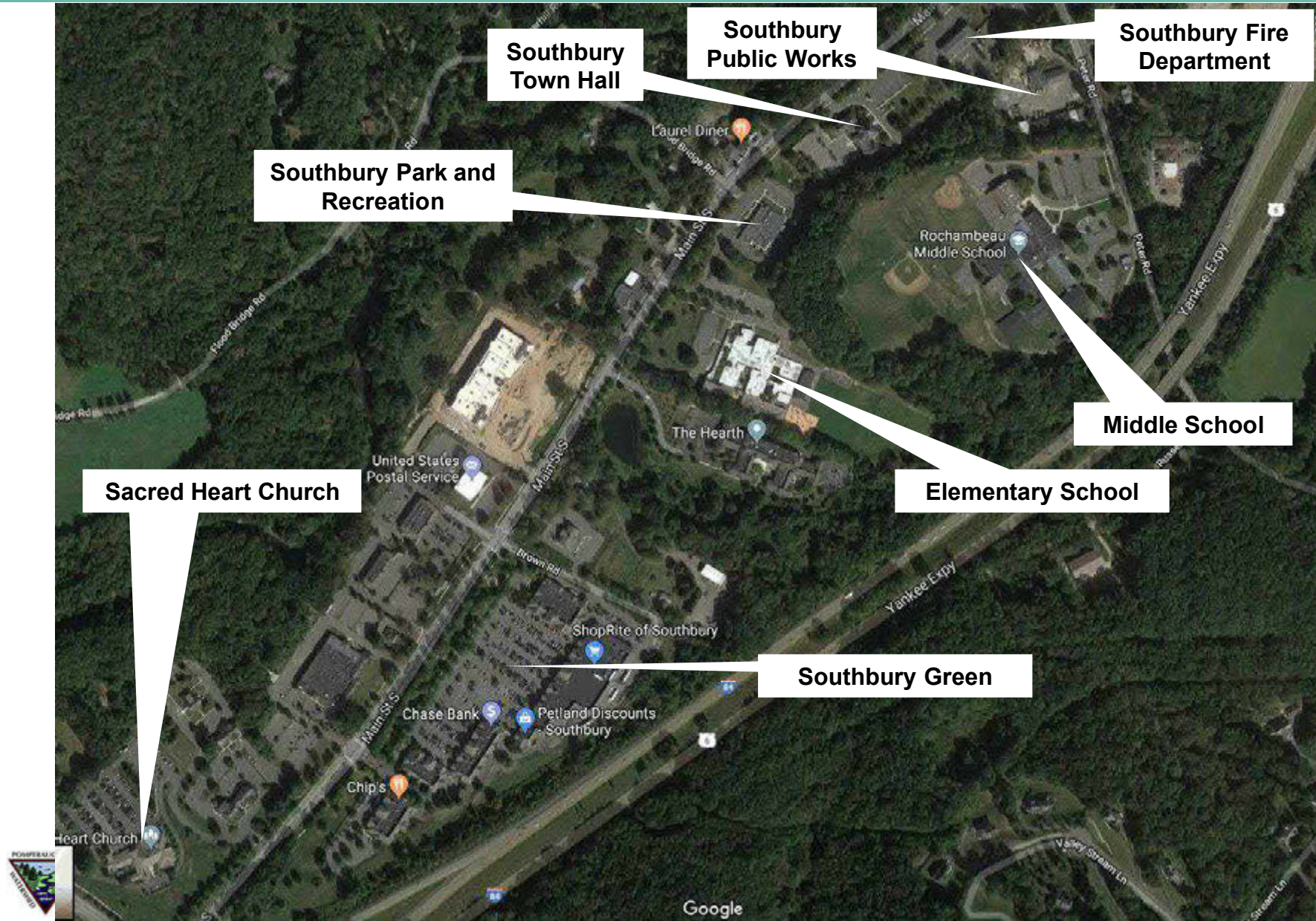
Southbury Plaza



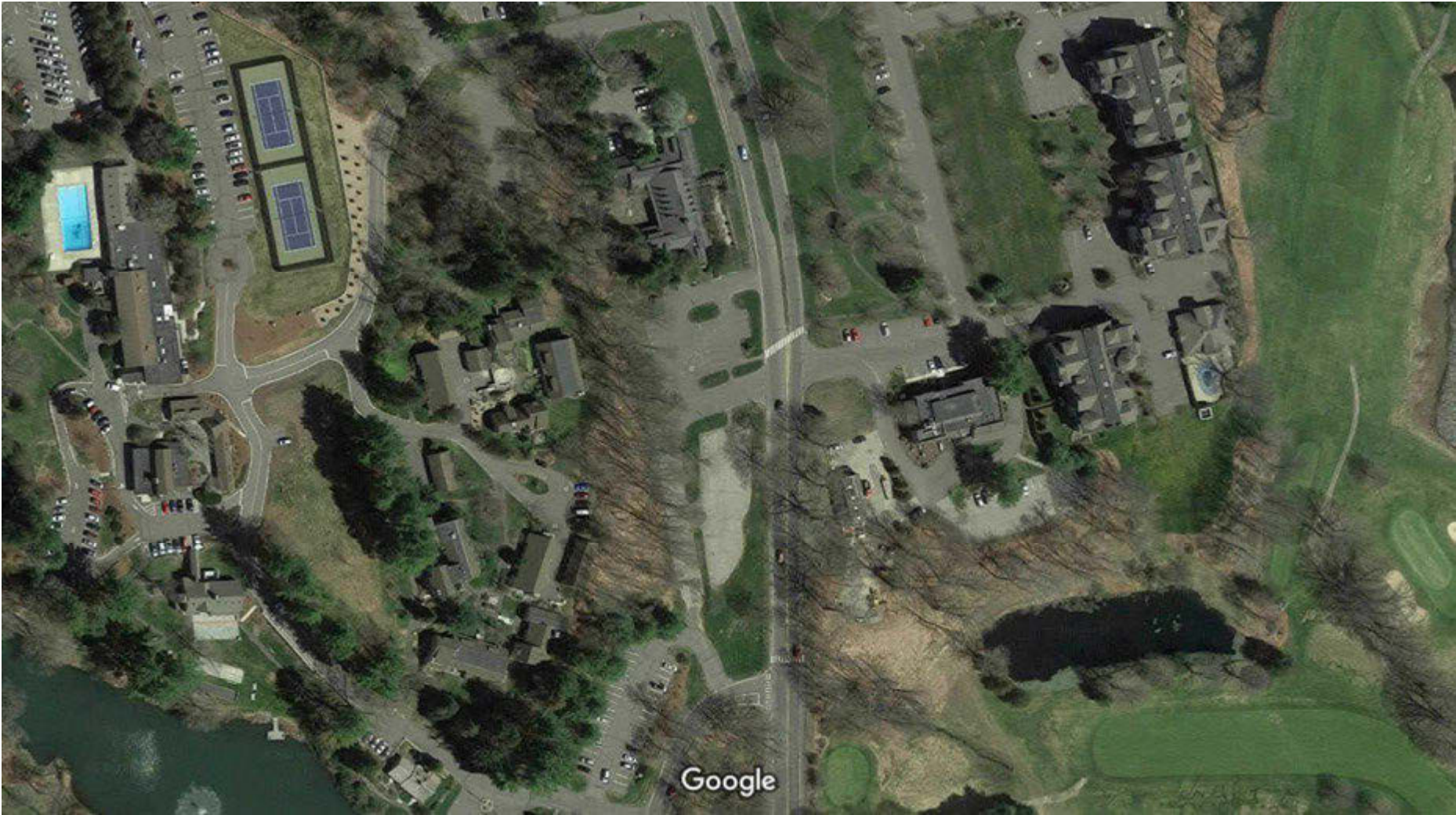
Main Street South Corridor – North



Main Street South Corridor – South



Heritage Village



Heritage Village



Illicit Discharge Detection and Elimination (IDDE)

- Requirements for MS4 regulated communities
- Encourage IDDE program implementation outside of regulated areas and in unregulated communities
- “Priority Areas” should include discharges to impaired segments



Manure Management

- Target equestrian facilities and livestock owners
 - Many likely doing a good job but could be better
- Focus on pastures as well as paddocks, barns, and storage areas



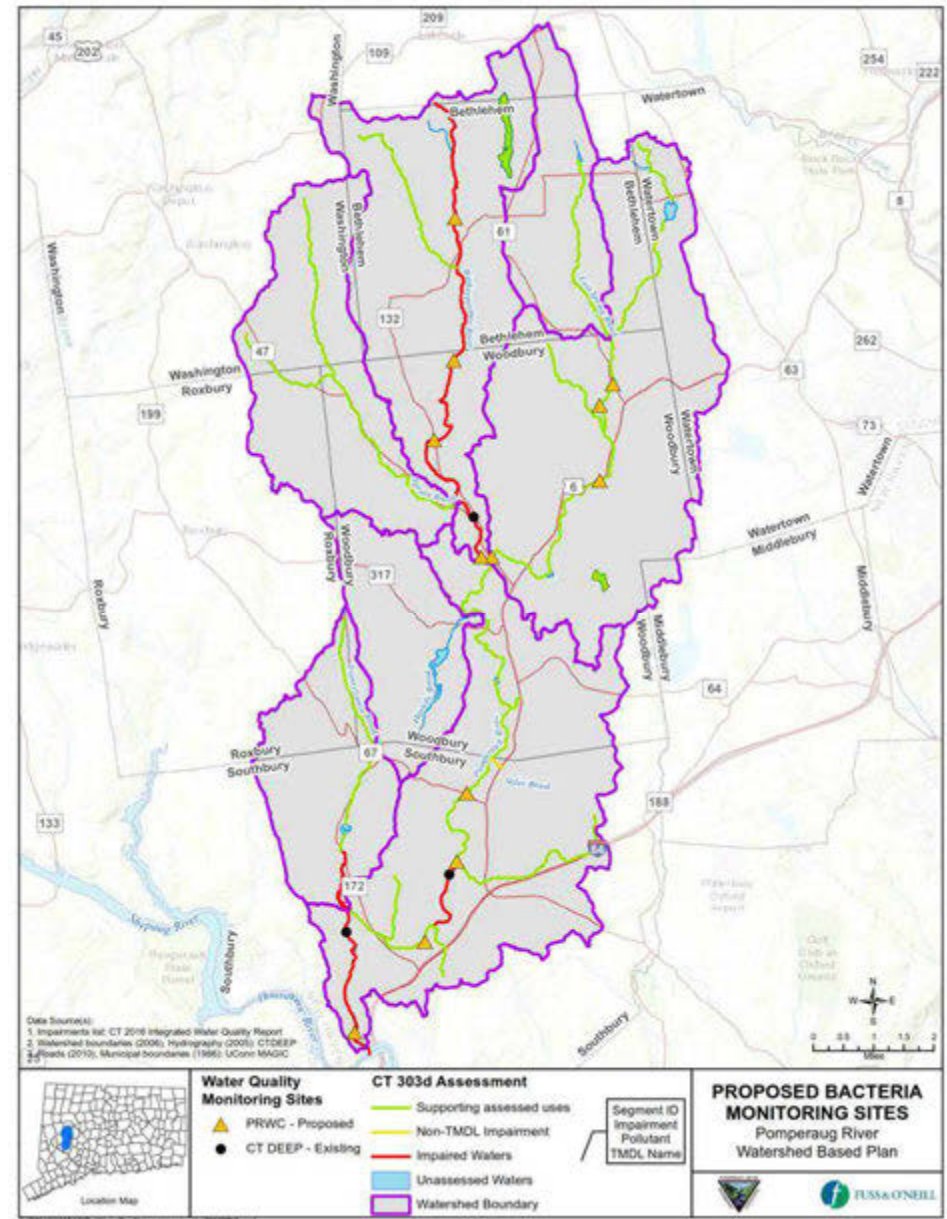
Site-Specific BMP Project Concepts

- 10 small and 5 large BMP project concepts
- Selection and Prioritization (refer to poster board)
 - Relative bacteria removal
 - Relative cost
 - Level of maintenance required



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



Next Steps

1. Public information meetings July 17 & 18
2. Release Draft Watershed Based Plan August 15
3. Final public presentation August 22
4. Finalize and submit Watershed Based Plan August 31



Discussion and Comments

- Submit email or written comments by Friday, July 27th:

Carol Haskins, Outreach Director

Pomperaug River Watershed Coalition

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

203-263-0076

chaskins@pomperaug.org

Thank you for your input and time!



Watershed Plan Presentation:

A Guidance Document for Improving Local Stream Health



WEDNESDAY AUGUST 22, 2018

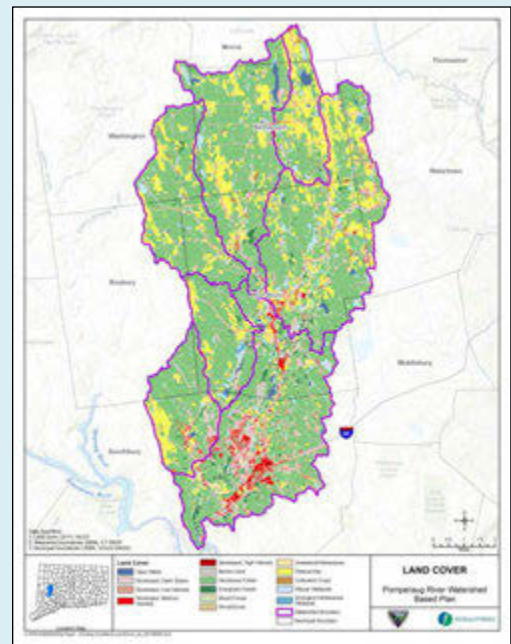
7:00 – 8:30 PM

Woodbury Senior Center

Main Street South, Woodbury

PRESENTATION HIGHLIGHTS WILL INCLUDE:

- Efforts to update the Pomperaug Watershed Management Plan*
- Overview of in-stream water quality conditions
- Description of current land cover conditions
- Results of pollutant loading model analysis
- Recommendations for reducing bacteria, nutrient, and sediment loads to local rivers and stream (and Long Island Sound)
- Plans for expanding local stream monitoring
- Opportunity for audience feedback and input



FOR MORE INFORMATION:

www.pomperaug.org | 203-263-0076

** PRWC is in the process of updating its 2005 Watershed Management Plan to a 9-Element Watershed Based Plan, a project funded in part by 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. Revisions to the Plan are being made with guidance and oversight from PRWC's Land Use Committee whose membership includes but is not limited to representatives from local conservation organizations, town land use departments, as well as regional, state, and federal agencies.*



Press Release

From the Pomperaug River Watershed Coalition

39 Sherman Hill Road, Suite 103C, Woodbury 06798

Phone: (203) 263-0076

Email: info@pomperaug.org

For Immediate Release: August 3, 2018

Coalition Presents Updated Watershed Plan for Improving River Conditions

In follow-up to the three presentations held in July in Bethlehem, Woodbury and Southbury about the water quality conditions of local rivers and streams flowing through the Pomperaug Watershed, the Pomperaug River Watershed Coalition ("PRWC") invites area residents and other interested individuals to a presentation of its forthcoming Watershed Based Plan ("Plan"). The presentation is scheduled for Wednesday August 22 at 7:00 PM at the Woodbury Senior Center.

The focus of the Plan is to identify measures that should be implemented to reduce the amount of bacteria entering the local streams currently listed as impaired by CT Department of Energy and Environmental Protection ("DEEP") and the US Environmental Protection Agency ("EPA"). There are segments in the Pomperaug Basin where in-stream bacteria levels in the past have been measured in excess of the water quality standard for recreation. DEEP data supporting these results are limited and are dated; as such, future plan implementation will include additional water quality monitoring and analysis.

"As a science-based organization, we are aiming to better understand changing conditions and potential threats to our rivers and streams so we can continue to help protect healthy waters and work to improve conditions where necessary," says Carol Haskins, PRWC Outreach Director. "As a coalition-based organization, we want to ensure our community has an opportunity to learn about our work and to provide input regarding the long-term stewardship of our shared water resources."

During the upcoming presentation, PRWC and the environmental consulting team of Fuss & O'Neill will briefly recap the local impairments and the nuances of the data supporting the designation of these stream segments, provide an updated look at the land cover conditions in the watershed, and explain the results of the pollutant loading model that were shared during the July presentations. The team will then present strategies to be considered to reduce volume of bacteria, sediments, and nutrients entering local streams during rain storm and snow melt events. PRWC will also seek community input to help finalize the Plan which will serve as a guidance document for state and local agencies to implement measures to further protect and enhance local water resources. The reduction of bacteria to local rivers and streams also supports a state-wide initiative to reduce the amount of bacteria and nutrients flowing into Long Island Sound.

Recommendations included in the forthcoming Plan are made with guidance and oversight from PRWC's Land Use Committee whose membership includes but is not limited to representatives from local conservation organizations, town land use departments, as well as regional, state, and federal agencies. The development of the plan was funded in part by Connecticut Department of Energy and Environmental Protection through a United States Environmental Protection Agency ("EPA") Clean Water Act Section 319 Nonpoint Source Grant as well as by Connecticut Community Foundation.

Additional information about the local water quality conditions and the Watershed Based Plan update can be found at www.pomperaug.org. Questions or comments may be directed to Carol Haskins at 203-263-0076 or outreach@pomperaug.org.

Final Public Information Session: Pomperaug Watershed Based Plan
August 22, 2018 from 7:00 to 9:00 PM at Woodbury Senior Center, Woodbury, CT

Presenters: Carol Haskins (Pomperaug River Watershed Coalition) & Erik Mas (Fuss & O'Neill)

Attendance: Approximately 25 people attended with representation from each of the core watershed municipalities of Bethlehem, Woodbury and Southbury (see sign-in sheet)

General Notes from Presentations Capturing Participant Comments & Questions

- Has any sampling for pharmaceuticals been done in the Pomperaug River?
- What is the impaired segment for the Weekepeemee River so long when there is only one sampling point at the lower end of the river?
- What does TMDL mean?
- What methods or criteria are used for the bacteria sampling? Do the results reflect one-time samples, seasonal samples, averages, wet or dry conditions, etc?
- Discussion of the Connecticut Water Company / Heritage Village Water, Town of Southbury, and PRWC efforts to develop a low flow management plan for the Pomperaug
- What does “high yield aquifer” mean?
- Are illicit system contributions the same or different than a septic failure?
- In reviewing the modeled pollutant load inputs, question was asked if this reflects actual observations. Clarification / reinforcement was made that the pollutant load model is based on well-informed assumptions (based on scientific literature and follow-up conversations with local professionals)
- Referencing the monitoring requirements for the waste water treatment system at Woodlake Condominiums, a question was raised about the frequency of monitoring for other systems (surface and subsurface).
- Comment that there is clearly an obvious need for more data and question if this is a next step moving forward?
- What is the MS4 Permit / What does MS4 mean?
- With the understanding that Woodbury and Southbury are subject to MS4 permitting and recognition that there are State managed roads in town, the question was raised about who has “jurisdiction” or oversight for the drainage systems associated with State roads. Answer: CT DOT has its own MS4 permit for state maintained roads.
- Question and discussion about providing notifications and gaining access to private property for streamwalk survey programs or other monitoring efforts. In particular, what are the legalities?
- Question about whether or not PRWC’s Watershed Based Plan meets the EPA 9-element criteria. Answer: It will.
- Will a copy of this presentation be added to the PRWC website along with the draft Plan? (Yes)



Public Information Meeting

Pomperaug River Watershed Based Plan

August 22, 2018



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



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



DRAFT – 10-22-06

page 1

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

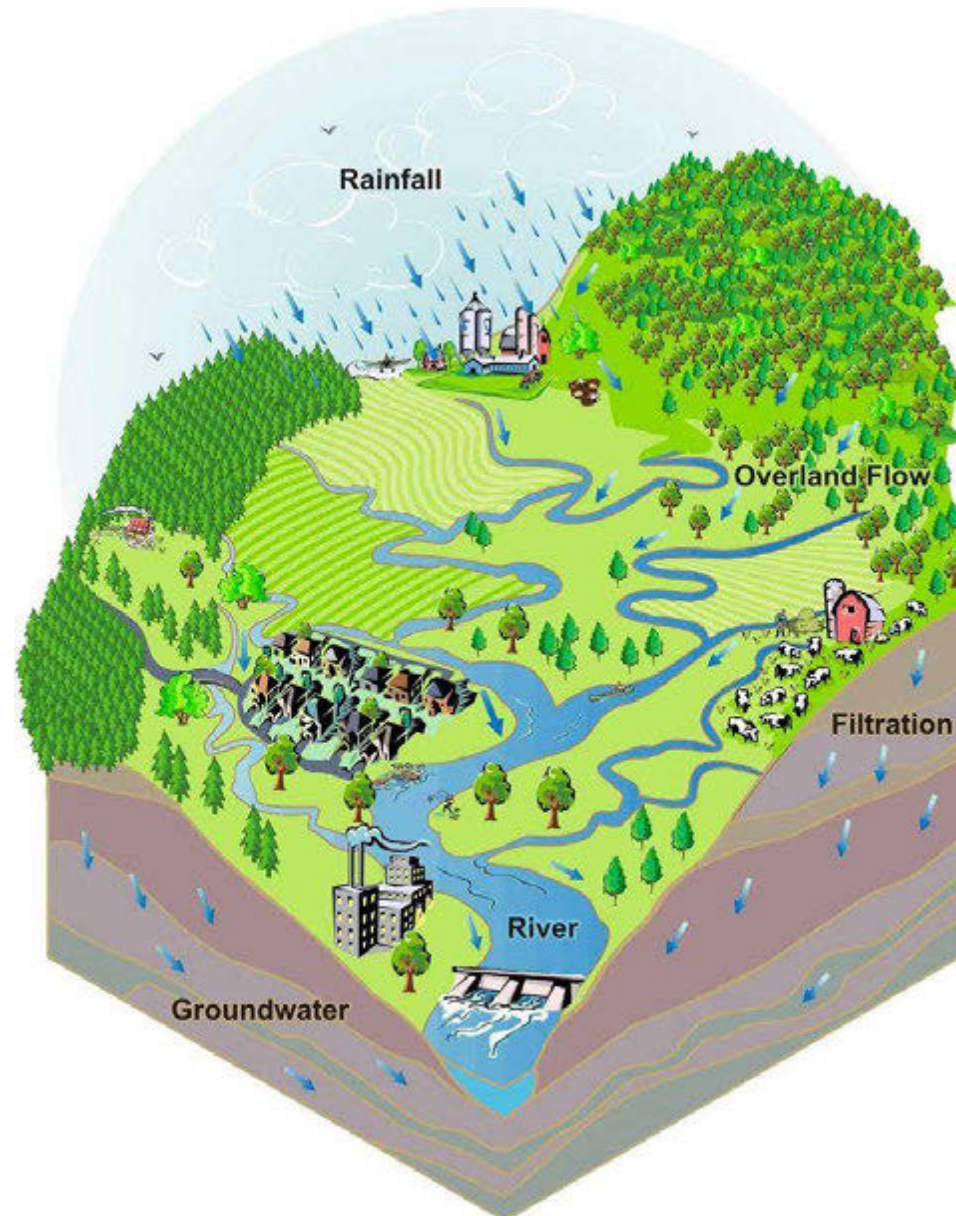
October, 2006

PO Box 141
Southbury, Connecticut 06488
Cris Schaefer, Executive Director

Telephone: 203-267-1700
Email: info@pomperaug.org
Web: www.pomperaug.org



What is a Watershed?



Pomperaug River Watershed Overview

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

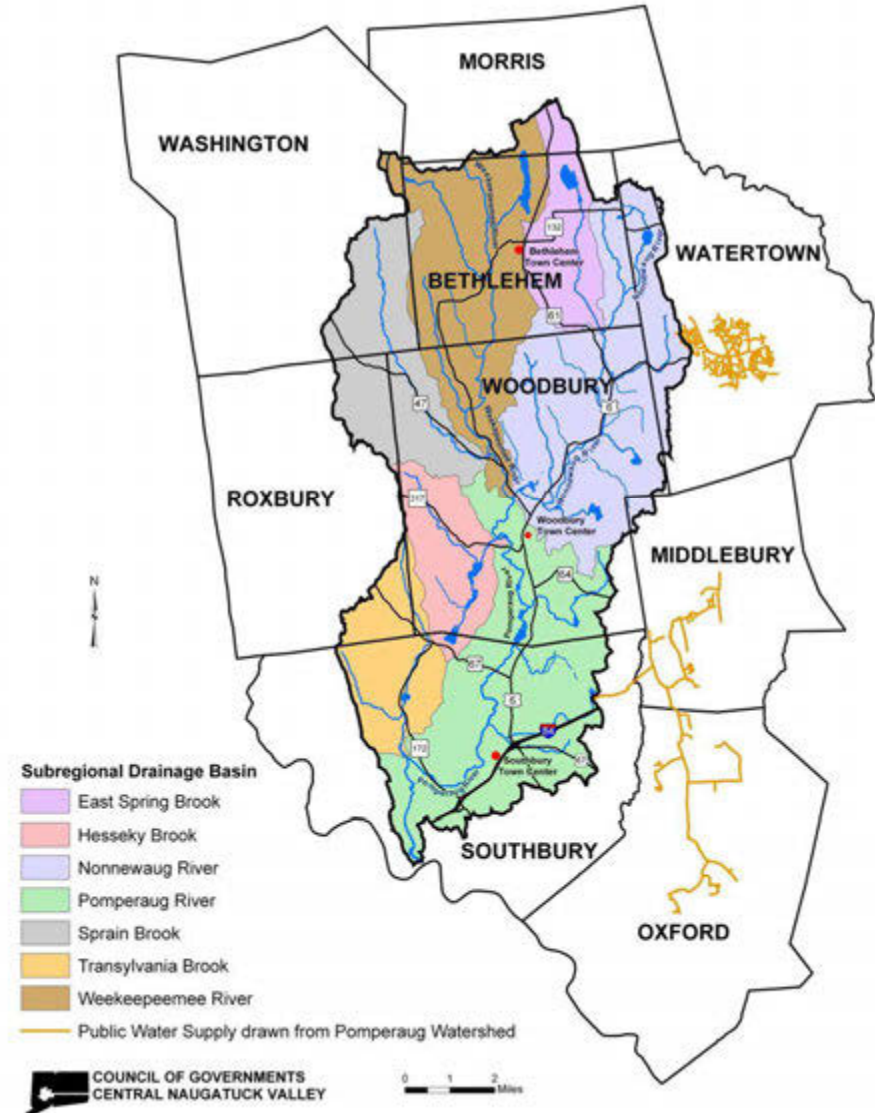


Pomperaug River Watershed Overview

- 7 major Subregional Drainage Basins
- Major tributaries



Subregional Drainage Basins
of the Pomperaug River Watershed



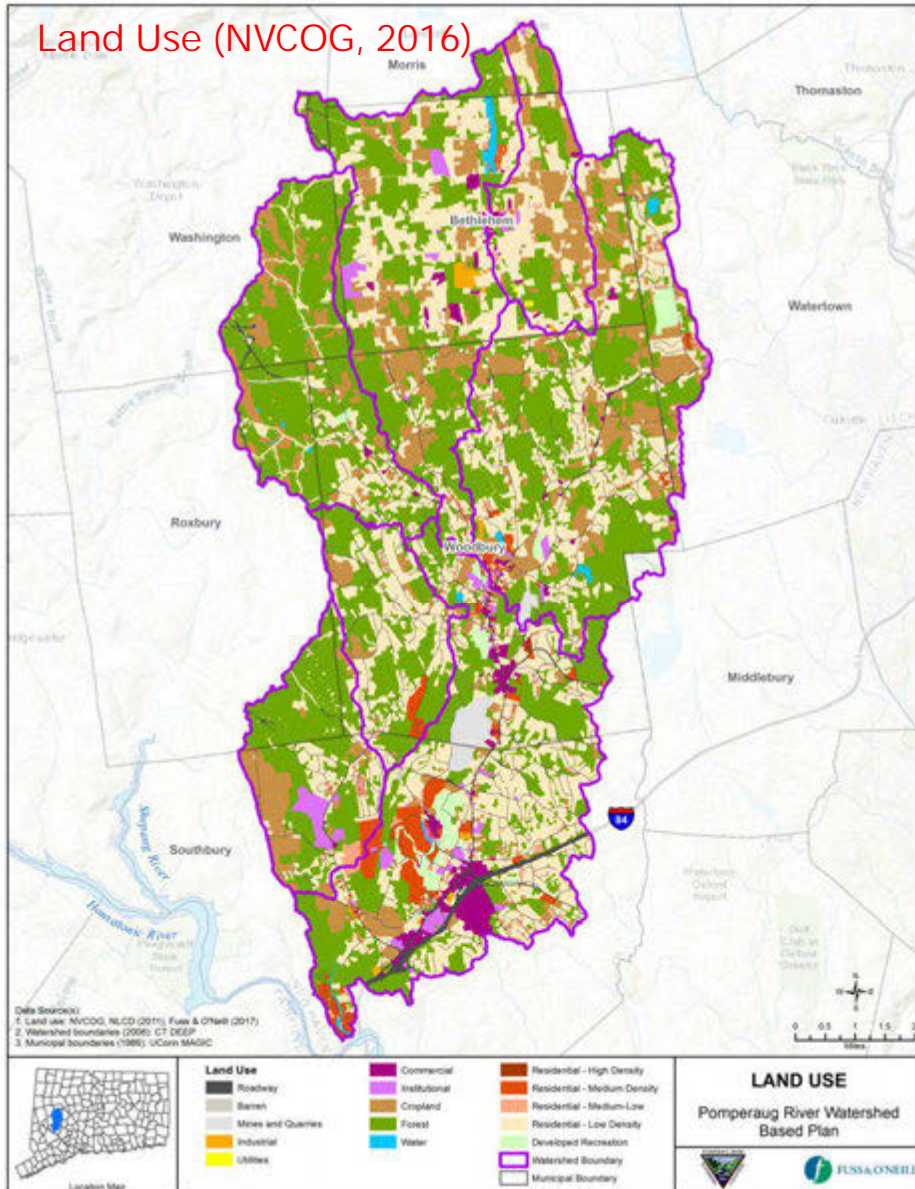
Subregional Drainage Basin

- East Spring Brook
- Hesseky Brook
- Nonnewaug River
- Pomperaug River
- Sprain Brook
- Transylvania Brook
- Weekepeemee River

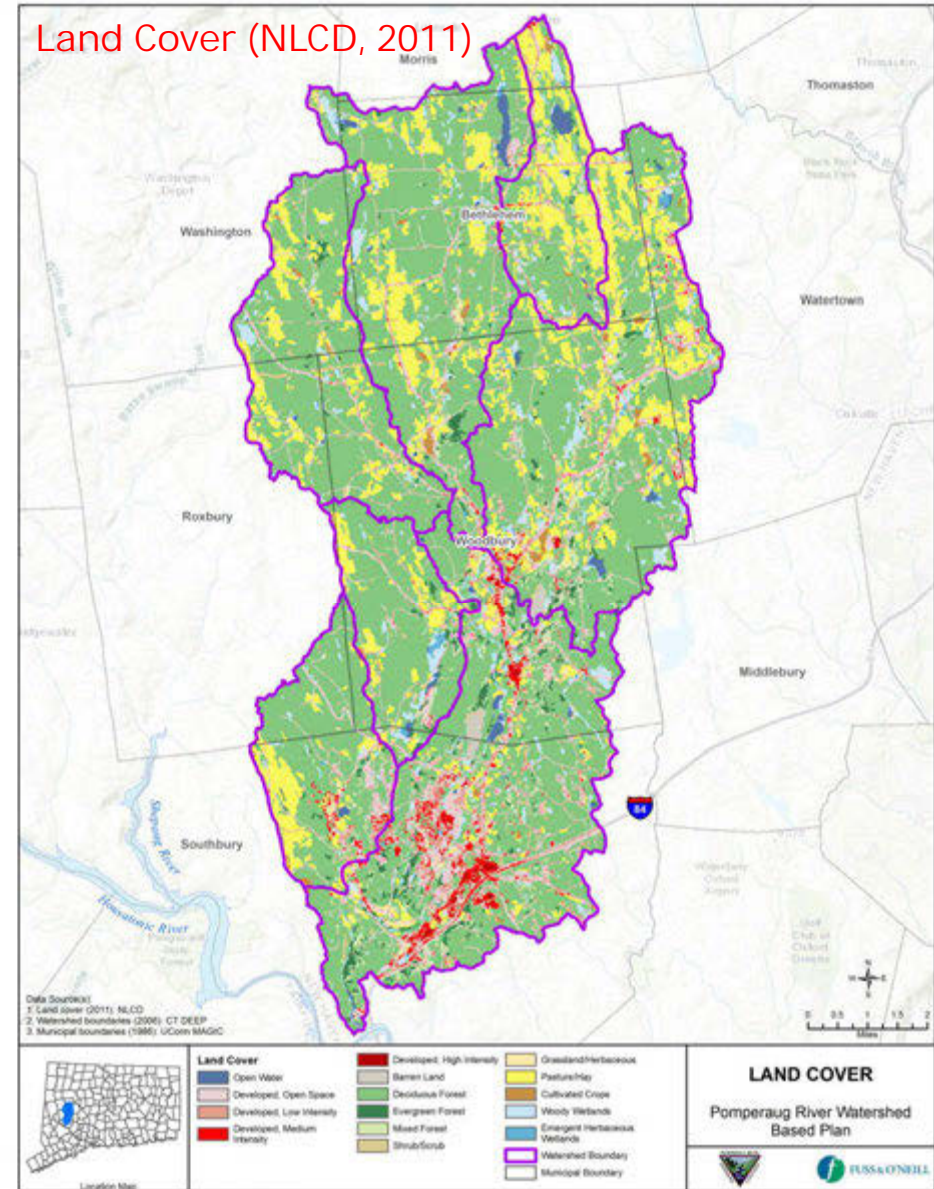
Public Water Supply drawn from Pomperaug Watershed

Land Use / Land Cover

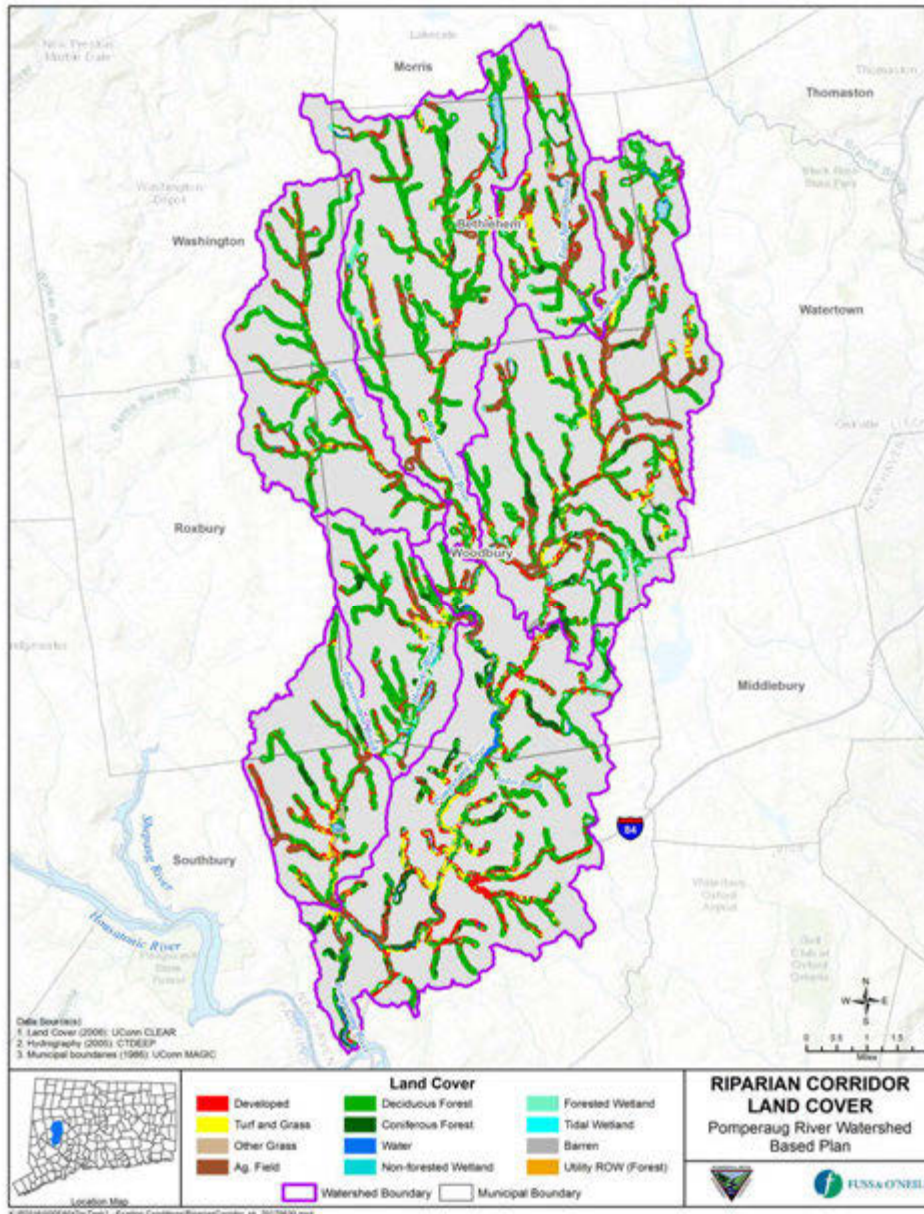
Land Use (NVCOG, 2016)



Land Cover (NLCD, 2011)



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

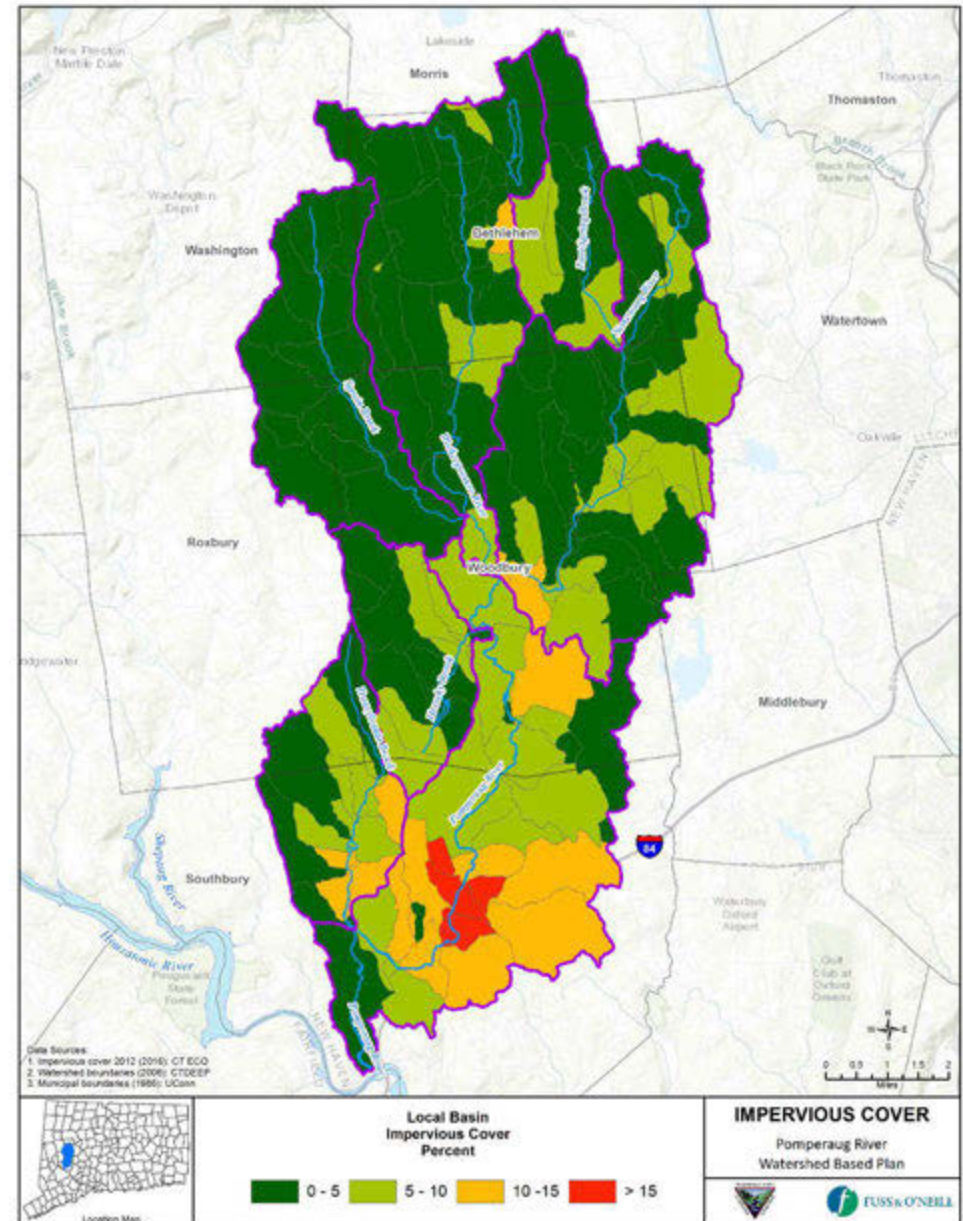
Riparian Corridor Land Cover

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

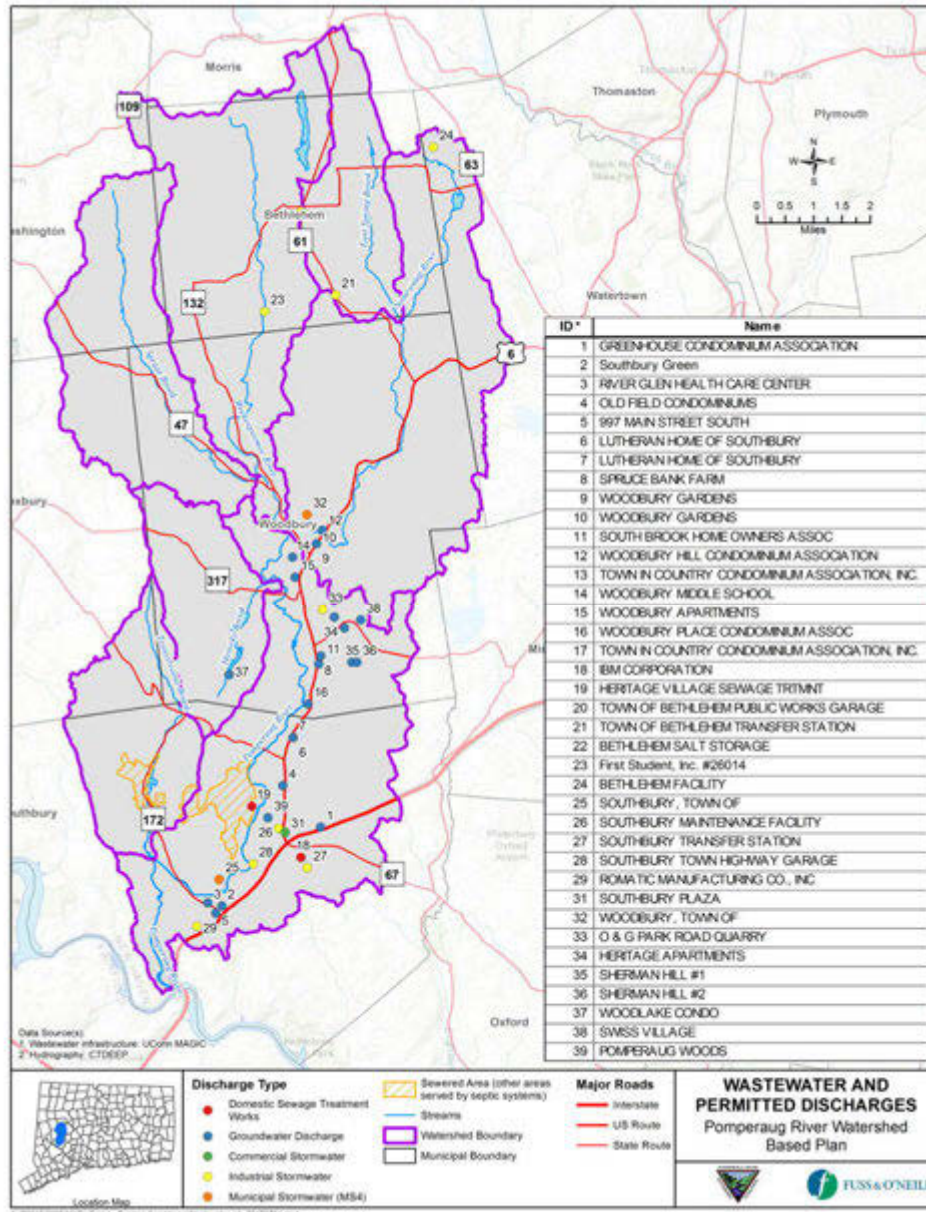
Land Cover Category	East Spring Brook	Hesseky Brook	Nonewaug River	Pomperaug River	Sprain Brook	Transylvania Brook	Weekeepeemee River
Developed, Other Grasses, Barren	10.33	10.33	12.05	22.05	11.74	17.63	9.89
Agriculture, Turf & Grass	30.38	14.91	26.76	14.54	15.98	20.13	19.36
Forest, Wetland, Water	59.29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



- CTDEEP

- Point discharges (versus nonpoint)

- Discharge permits database, 2016

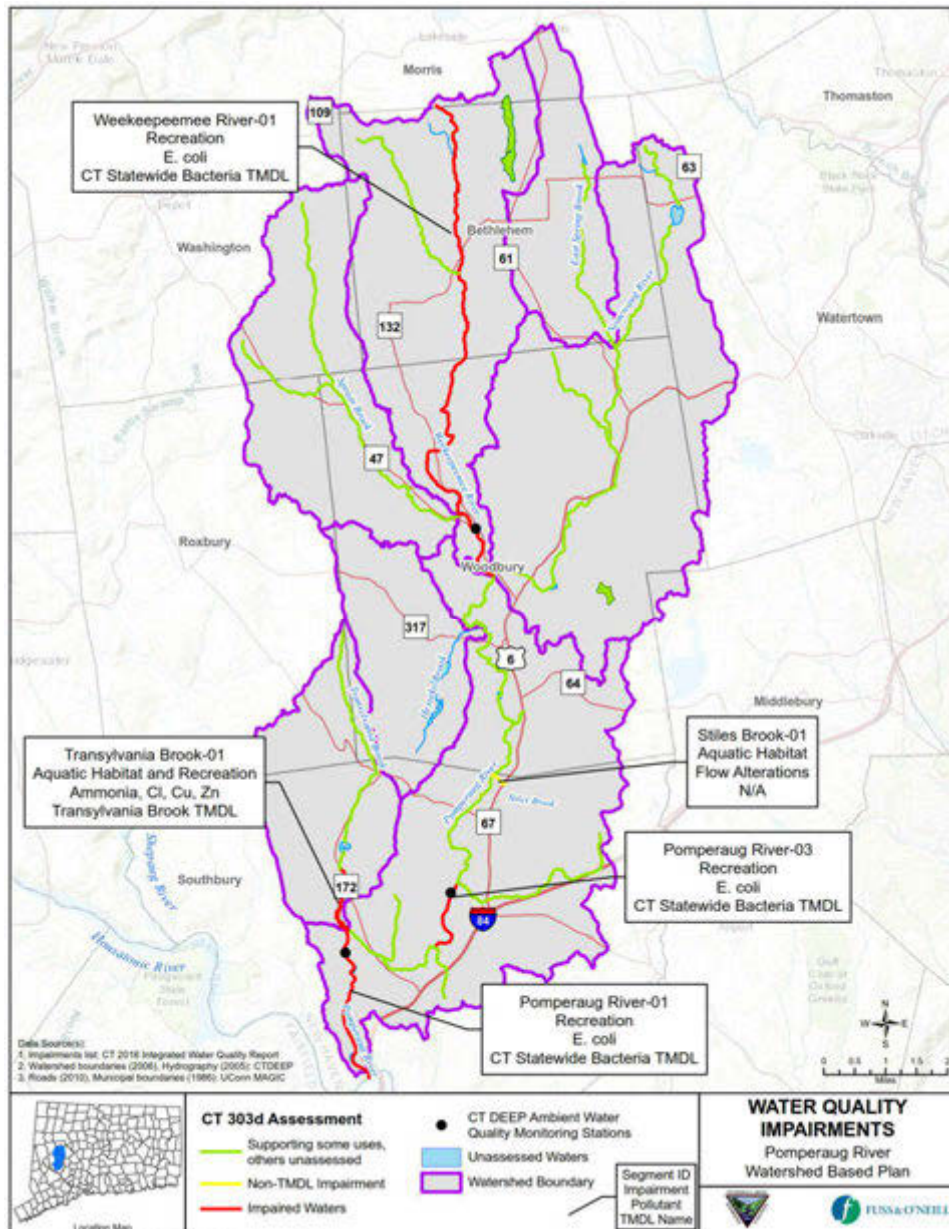
- Sewered area, 1997

- 39 permitted dischargers

- Sewage treatment plants

- Large permitted septic systems

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

Surface Water Quality Impairments

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

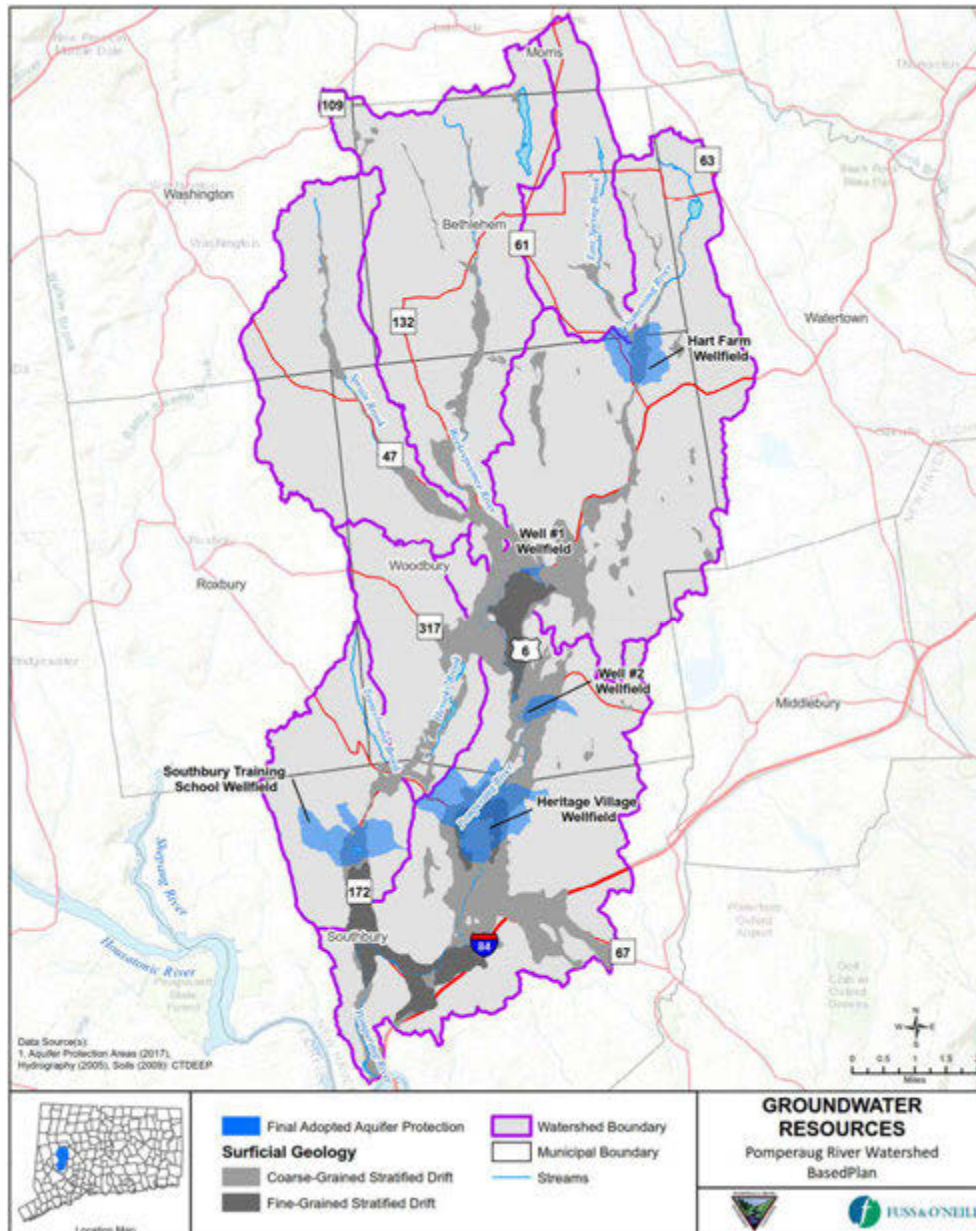


Physical Alterations

- 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



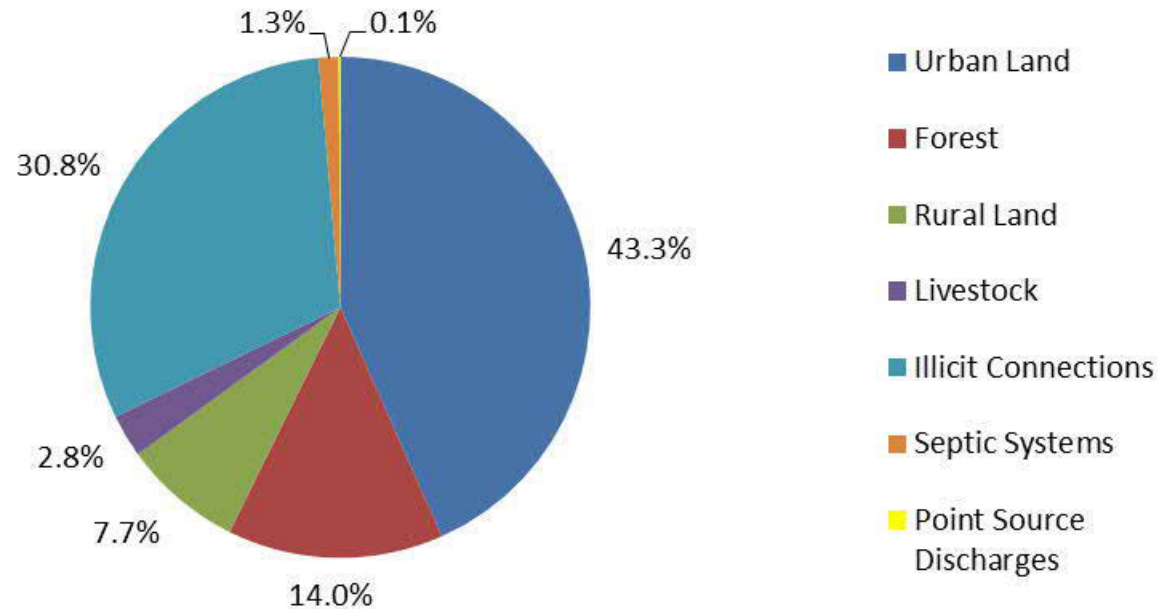
Groundwater Resources



- 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

Modeled Relative Bacteria Sources

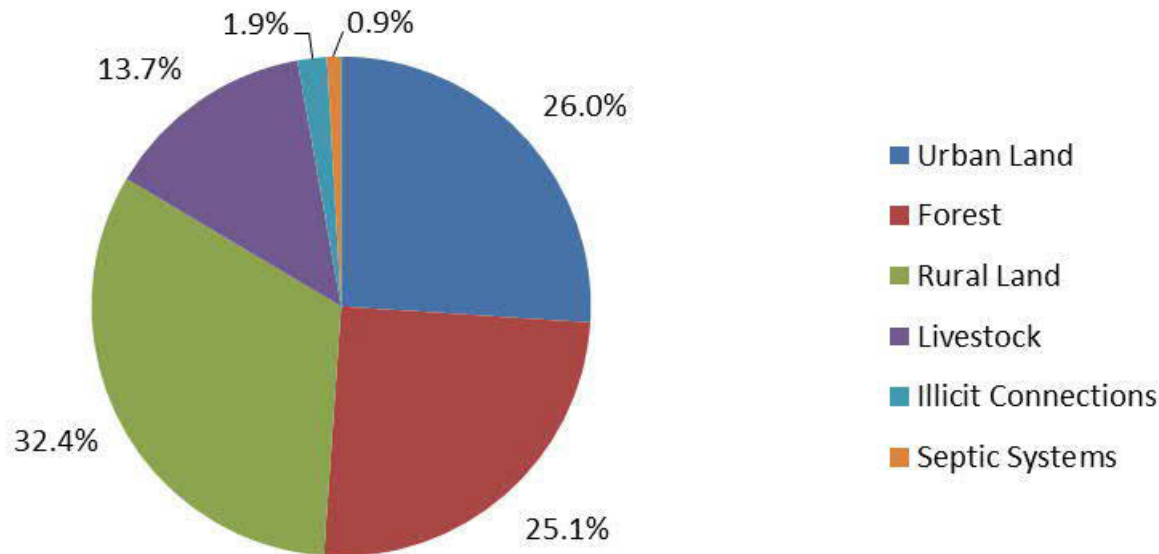
Pomperaug River Subregional Basin



- 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

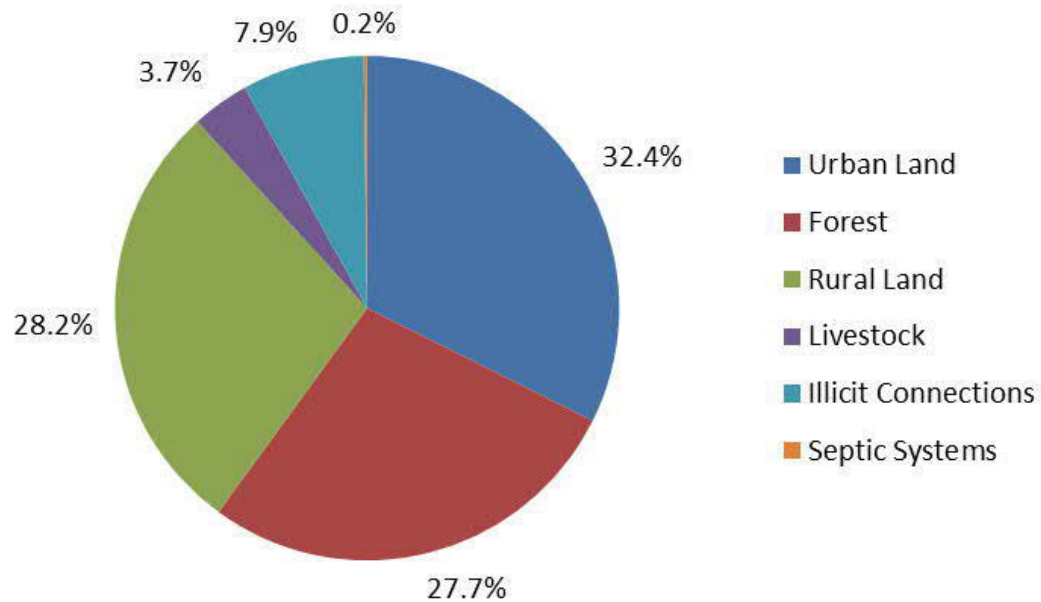
Weekeepeemee River Subregional Basin



- 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

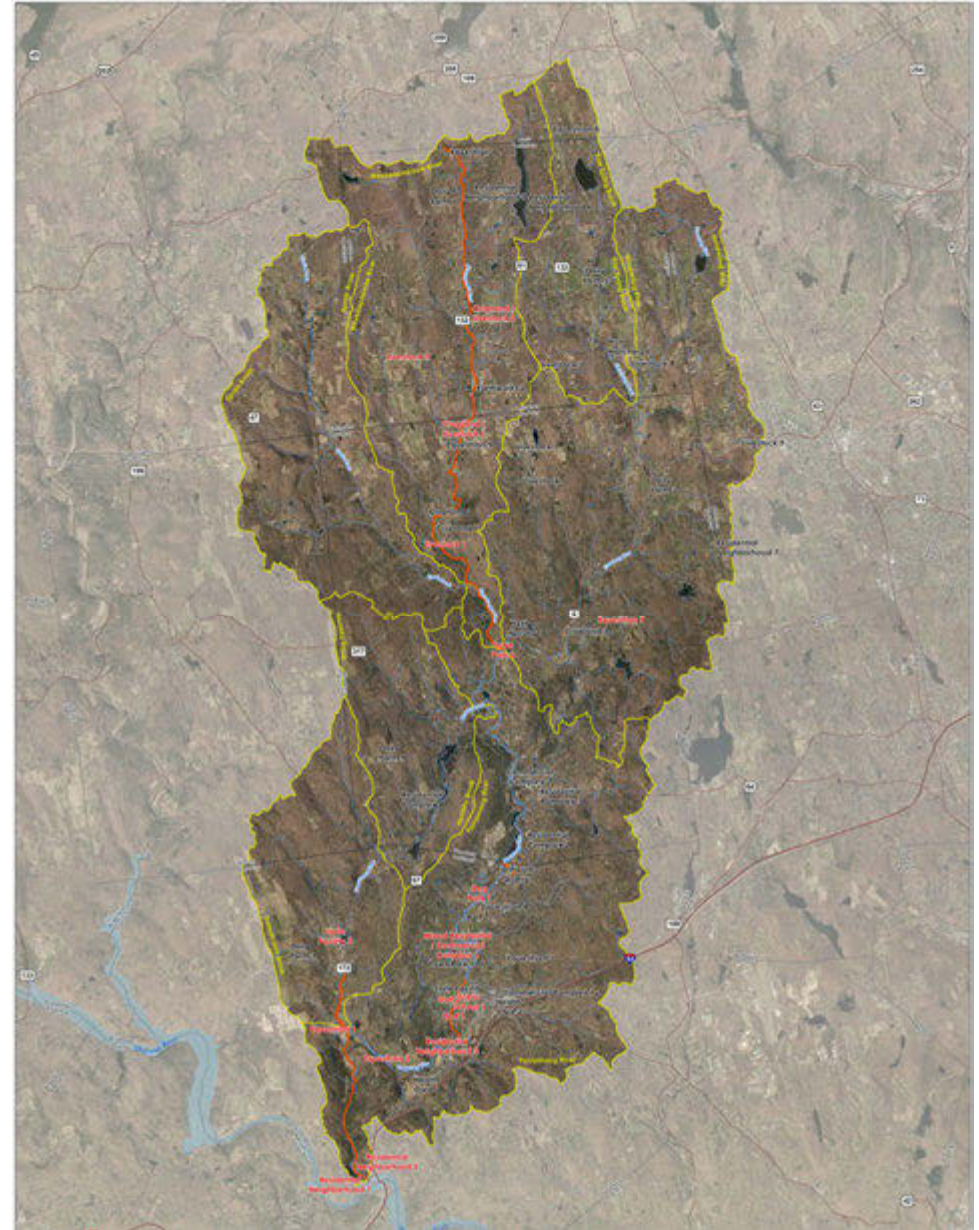
Visual Field Assessments

- 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

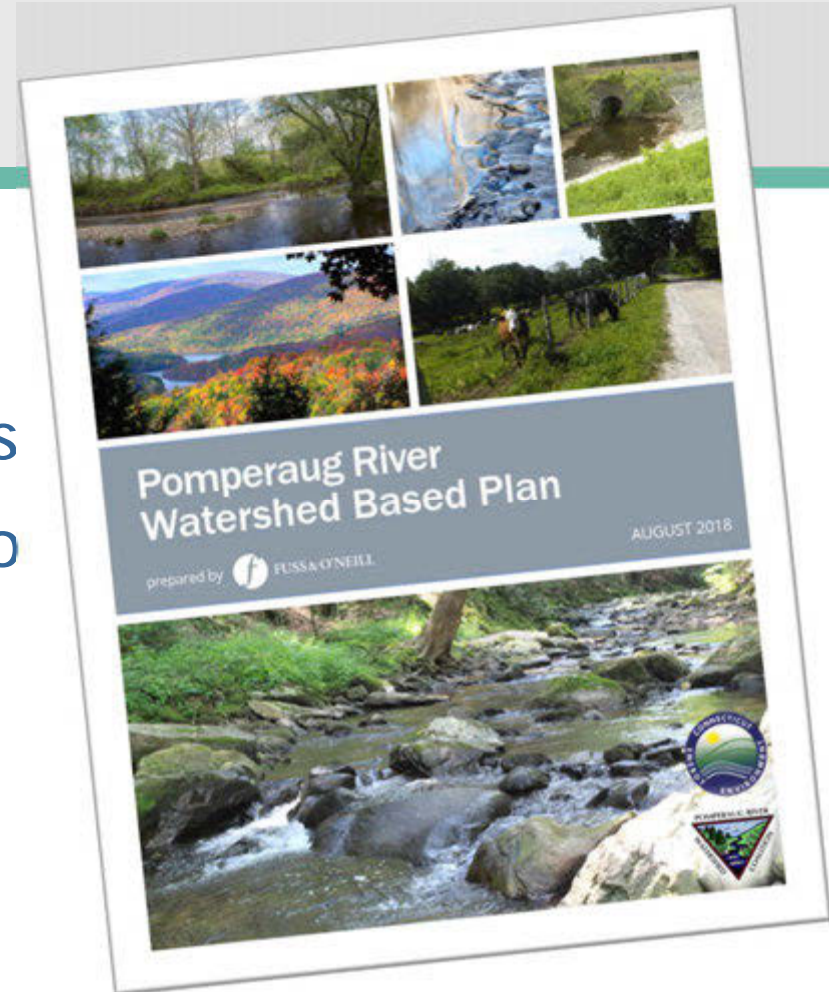
BMP Prioritization Matrix for Potential Areas of Concern
Pomperaug River Watershed Based Plan

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	<ul style="list-style-type: none"> Underground infiltration in ROW Bioretention cells where feasible Pervious pavement at older parking lots (e.g. Meeting House) needing maintenance 	<ul style="list-style-type: none"> Heritage Village should be included as a priority area in the Town of Southbury's MS4 Stormwater Management Program, including IDOE 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-01)	Heritage Road, Southbury	Wastewater treatment plant	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Develop and implement GULID "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: <ul style="list-style-type: none"> 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)	<ul style="list-style-type: none"> Follow up sampling of dry weather discharge and removal of any illicit connections found 		Medium	Low	Low	Yes		

Watershed Based Plan

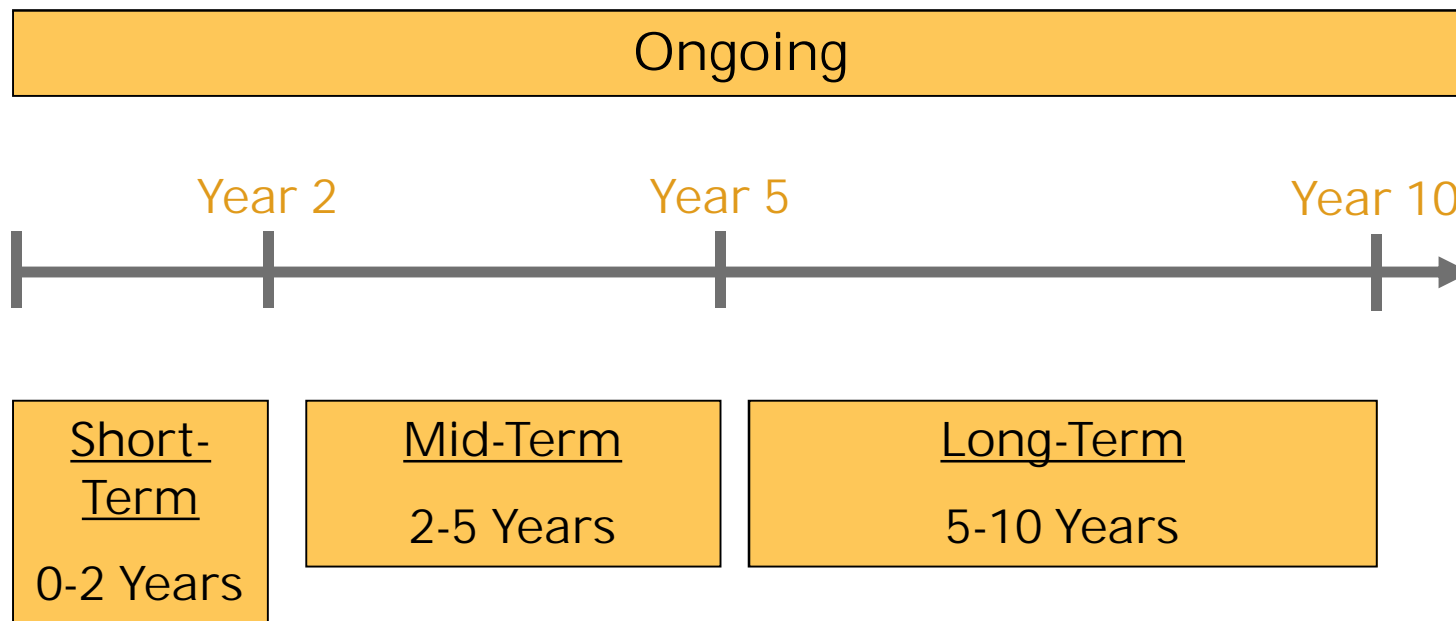
Plan Objectives

- 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



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



Pomperaug River Watershed Based Plan - Potential Funding Sources

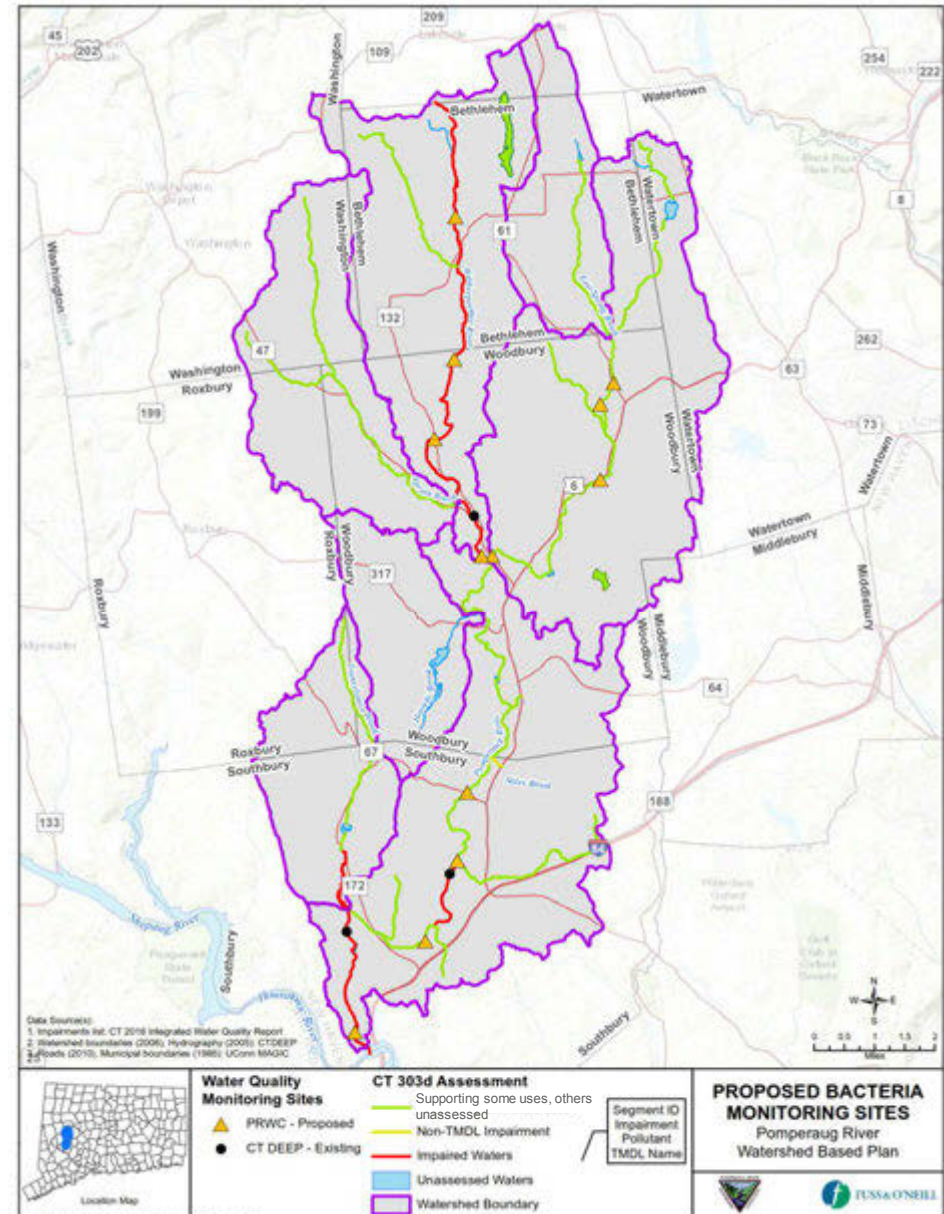
Funding Source	Description	Reference
Private Foundations	Connecticut Community Foundation, Southbury Community Trust Fund, Ion Bank Foundation, Thomaston Savings Bank Foundation, The Watertown Foundation, Argall Hull Foundation	https://connct.org/ https://ionbank.com/about-us/foundation/ https://www.thomastonsavingsbank.com/foundation https://www.watertownfoundation.com/ http://www.wef.org/ms4awards/
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.epa.gov/region1/eco/uep/hcgo.html
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.	https://www.epa.gov/education/environmental-education-ec-grants
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.	http://www.fema.gov/preparedness-non-disaster-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.	https://www.epa.gov/smartergrowth/epa-smart-growth-grants-and-other-funding
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.	

Pomperaug River Watershed Based Plan



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

Water Quality Illustrates the Story of Long Island Sound's Ecological Health

Water Quality Indicators

- DO Dissolved oxygen**: Dissolved oxygen is critical to the survival of fish and shellfish. Low levels of dissolved oxygen can stress fish, shellfish, and other marine life living on the bottom, reducing growth and reproduction, and if low enough levels results in mortality.
- Water clarity**: Water clarity is a measure of how far light penetrates through the water. Clear water allows fish to find prey and helps underwater plants to thrive.
- Chlorophyll a**: Chlorophyll a measures the amount of phytoplankton (microalgae) in the water column. Too much algae in the water reduces water clarity and decomposing algae leads to reduced dissolved oxygen.
- Nutrients**: Nutrients (nitrogen and phosphorus) are the building blocks for life, but too much in a natural system can lead to problems. Our communities can reduce excess nutrients to the Sound from wastewater, septic systems, fertilizers and fuel tank burning. Algae blooms increase growth of plants like seagrasses, phytoplankton and seaweed, leading to algae blooms. As these organisms and the animals that feed on them respire, they add to the oxygen, oxygen in the water is depleted. One of our indicators captures the impact of high nutrient inputs - low DO, high chlorophyll a, low water clarity. When conditions are very bad, we sometimes see fish kills and harmful algal blooms.

Western Narrows (F): The Western Narrows received an F (51%), the worst grade of the Sound, because nutrient levels and water clarity are very poor. This area is densely developed, and has very little exchange with the Atlantic Ocean.

Eastern Narrows (C-): The Eastern Narrows received a C- (70%), a moderately poor grade, reflecting degraded water quality, due to poor nutrient levels. This region has urban and suburban development and the water has little exchange with the Atlantic Ocean.

Long Island Sound (A-): There is a problem from east to west of unhealthy DO to healthy open sound water quality (A-). The Western Narrows, home of the highly populated New York City metropolitan area, showed very poor water quality, reflecting a very high load of nutrients and very poor water clarity. In addition to the polluting impacts of dense population and development, the western end of the Sound is further impacted by having only minor flushing and tidal exchange with New York Harbor.

Western (B): Western Long Island Sound received a B (80%) because most indicators scored well. Nutrients continue to be a problem which leads to occasional reduced dissolved oxygen levels. This region is less developed than the Narrows but still densely populated.

Central (B+): Central Long Island Sound received a B+ (86%), although nutrients are still a cause for concern in this region, increased exchange with the Atlantic Ocean, leads to water quality generally supportive of aquatic life.

Eastern (A-): Eastern Long Island Sound received an A- (92%), the best grade of the Sound. This region has a lower population and a mix of work, suburban, and agricultural use, and has a lot of exchange with the Atlantic Ocean.

How are the scores calculated?

- A** 90-100%: All water quality indicators meet desired levels. Quality of water in these locations tends to be very good, most often leading to preferred habitat conditions for aquatic plants and animals.
- B** 80-90%: Most water quality indicators meet desired levels. Quality of water in these locations tends to be good, often leading to acceptable habitat conditions for aquatic plants and animals.
- C** 70-80%: There is a mix of good and poor levels of water quality indicators. Quality of water in these locations tends to be fair, leading to sufficient habitat conditions for aquatic plants and animals.
- D** 60-70%: Some or few water quality indicators meet desired levels. Quality of water in these locations tends to be poor, often leading to degraded habitat conditions for aquatic plants and animals.
- F** 0-60%: Very few or no water quality indicators meet desired levels. Quality of water in these locations tends to be very poor, leading to unacceptable habitat conditions for aquatic plants and animals.
- ID** Insufficient Data (ID) is a designation used for areas where there is either insufficient or no data to give a grade on desired health levels.

This Report Card compares water quality indicators (dissolved oxygen, nutrients, chlorophyll a, and water clarity) to scientifically derived thresholds or goals. These indicators are combined into an overarching Water Quality Index, which is presented as a subregion percent score. The Sound-wide score is derived by combining the regional scores for each indicator and weighting them based on the area of water in that region. For more information about methods, please visit longislandsound.ecoreportcard.org.

This Report Card is based on data collected in 2015.

D+ Harbor nitrogen levels & water clarity need improvement

Overall Inner Harbor Health D+
Inner Hempstead Harbor scored 67% **D+**. This grade is considered poor. Dissolved oxygen scored 87% **B+** overall, a moderately good grade. Dissolved inorganic nitrogen scored 76% **C**, a moderate grade and water clarity scored 38% **F**, a very poor grade.

Outer Harbor ID
The Outer Harbor subregion was not scored, due to insufficient data collected in this region, with only one sampling site. Because of the importance of shellfishing in this region, new sampling sites are being considered in the future.

Glen Cove Creek F
The Glen Cove Creek subregion scored 54% **F**, a very poor grade. Dissolved oxygen scored 82% **B+**, a moderately good grade. Dissolved inorganic nitrogen and water clarity had very poor grades, 52% **F**, and 27% **F**, respectively.

Middle Harbor D+
The Middle Harbor subregion scored 69% **D+**, a poor grade. Dissolved oxygen scored 88% **B+**, a moderately good grade and dissolved inorganic nitrogen scored 79% **C**, a moderate grade. Water clarity scored 41% **F**, a very poor grade.

Lower Harbor D-
The Lower Harbor subregion scored 62% **D-**, a poor grade. Dissolved oxygen scored 83% **B**, a moderately good grade. Dissolved inorganic nitrogen scored 70% **C**, a moderately poor grade. Water clarity scored 31% **F**, a very poor grade.

How is health calculated?
The aim of this report card is to provide a transparent, timely, and geographically detailed assessment of water quality for Inner Hempstead Harbor. Scores are determined by comparing three indicators (dissolved oxygen, dissolved inorganic nitrogen, and water clarity) to scientifically derived ecological thresholds or goals. These three indicators were combined into a Water Quality Index, which is presented as the site or subregion grade. Each subregion score was weighted by area to reach the Inner Hempstead Harbor score. For more information about methods, please visit longislandsound.ecoreportcard.org.

Legend:

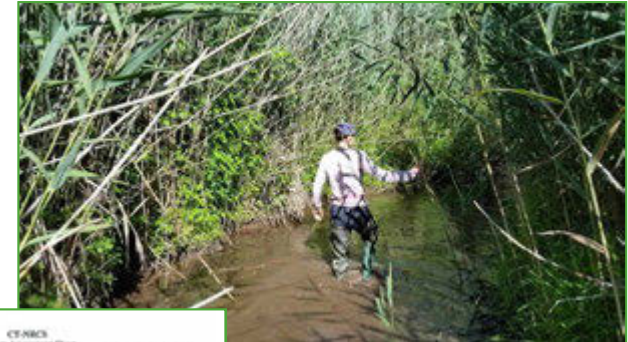
- DO** Dissolved oxygen
- N** Dissolved inorganic nitrogen
- Water clarity**

Grade Legend:

- A** 90-100%: All water quality indicators meet desired levels. Quality of water in these locations tends to be very good, most often leading to preferred habitat conditions for aquatic plants and animals.
- B** 80-90%: Most water quality indicators meet desired levels. Quality of water in these locations tends to be good, often leading to acceptable habitat conditions for aquatic plants and animals.
- C** 70-80%: There is a mix of good and poor levels of water quality indicators. Quality of water in these locations tends to be fair, leading to sufficient habitat conditions for aquatic plants and animals.
- D** 60-70%: Some or few water quality indicators meet desired levels. Quality of water in these locations tends to be poor, often leading to degraded habitat conditions for aquatic plants and animals.
- F** 0-60%: Very few or no water quality indicators meet desired levels. Quality of water in these locations tends to be very poor, leading to unacceptable habitat conditions for aquatic plants and animals.
- ID** Insufficient Data (ID) is a designation used for areas where there is either insufficient or no data to give a grade on desired health levels.

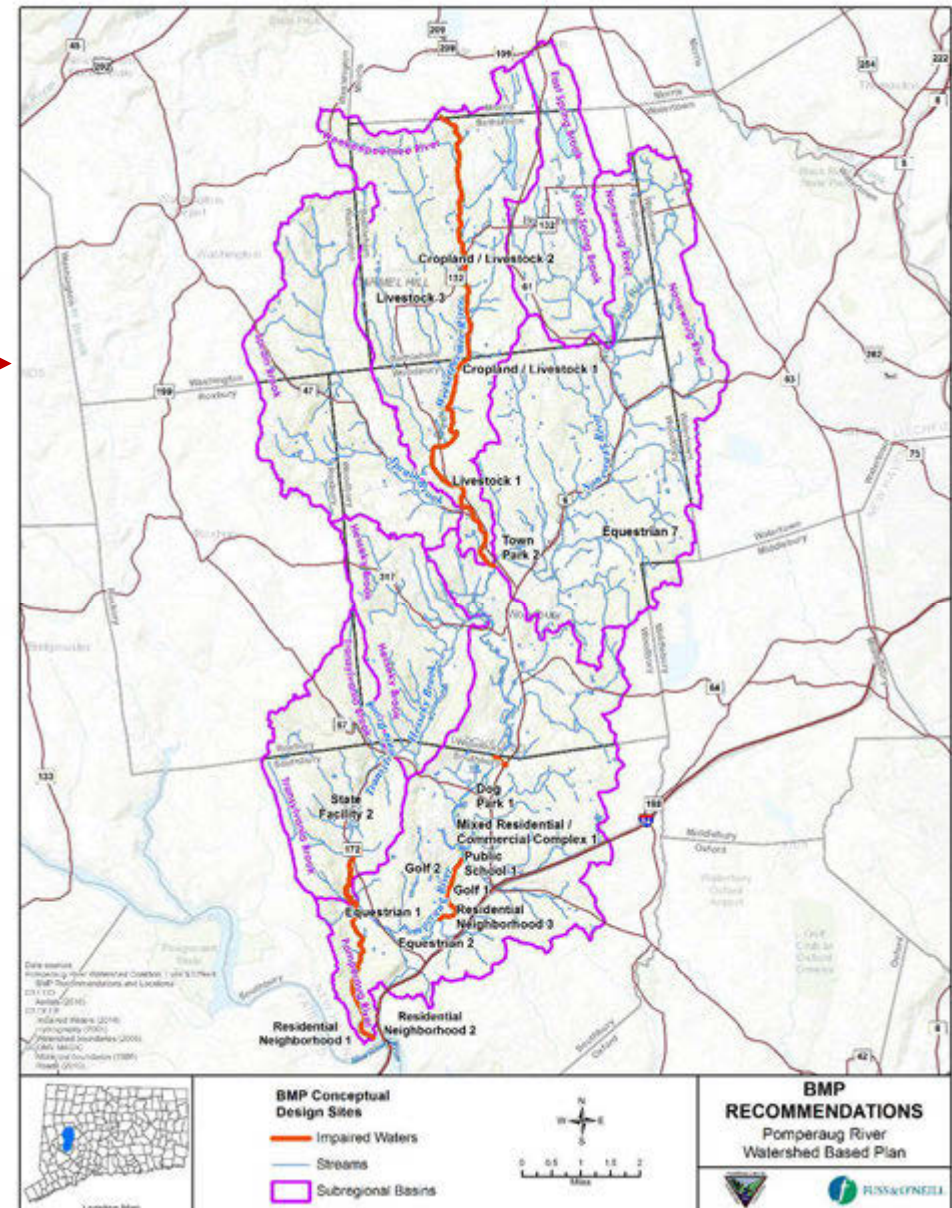
Streamwalks and Track Down Surveys

- 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
 - Weekepeemee River
 - Transylvania Brook

A screenshot of the NRCS Stream Assessment Sheet. The form is titled "NRCS Stream Assessment Sheet" and "Reach Level Assessment". It contains several sections for data entry, including "Stream Characteristics", "Substrate Composition", "Bank Stability", and "Aquatic Plants in Stream". There are checkboxes and input fields for various assessment criteria. A table at the bottom right lists "Adequacy of Stream Workflows" with columns for "Stream", "Bank", "Substrate", "Aquatic Plants", and "Water Conditions".

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)

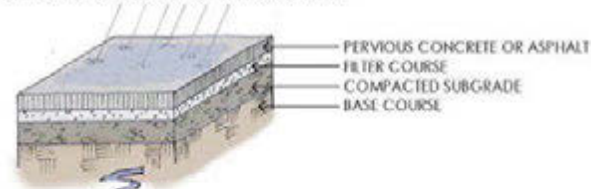


Green Infrastructure and LID

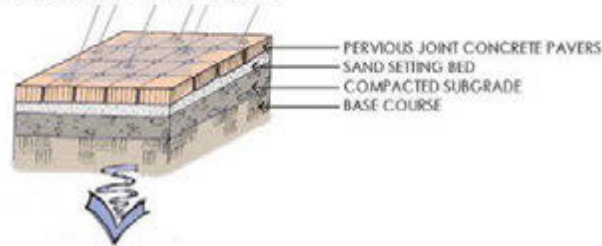
Permeable Pavement



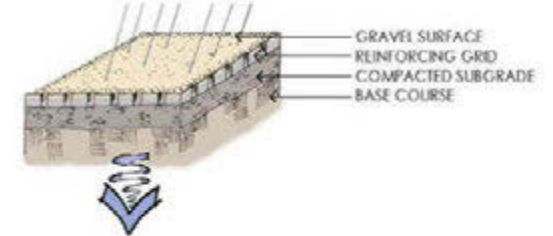
PERVIOUS CONCRETE/ASPHALT DIAGRAM



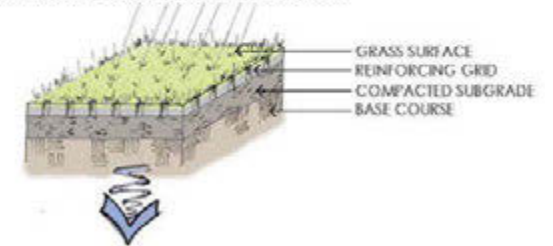
PERVIOUS JOINT PAVER DIAGRAM



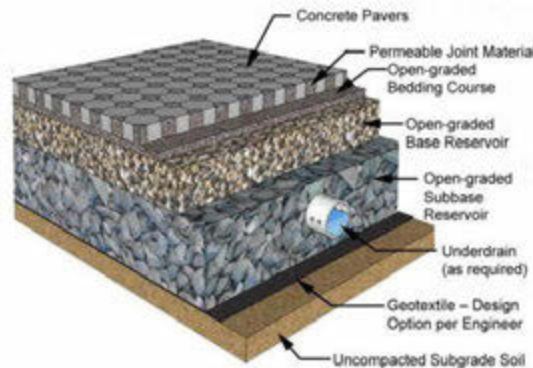
REINFORCED GRAVEL PAVING DIAGRAM



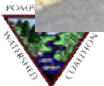
REINFORCED GRASS PAVING DIAGRAM



Source: Loudoun County Sustainable Green Streets and Parking Lot Design Guidelines (2009)

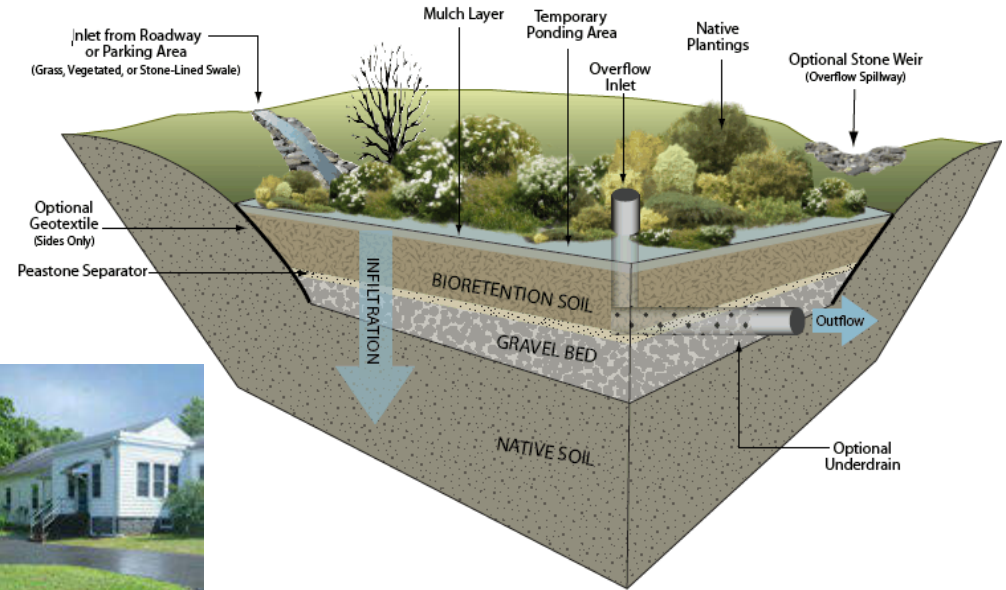


ILL



Green Infrastructure and LID

Bioretention/Infiltration



Green Infrastructure and LID

Underground Solutions

- Parking lots
- Public right-of-way



Site-Specific BMP Concepts

Residential Neighborhood

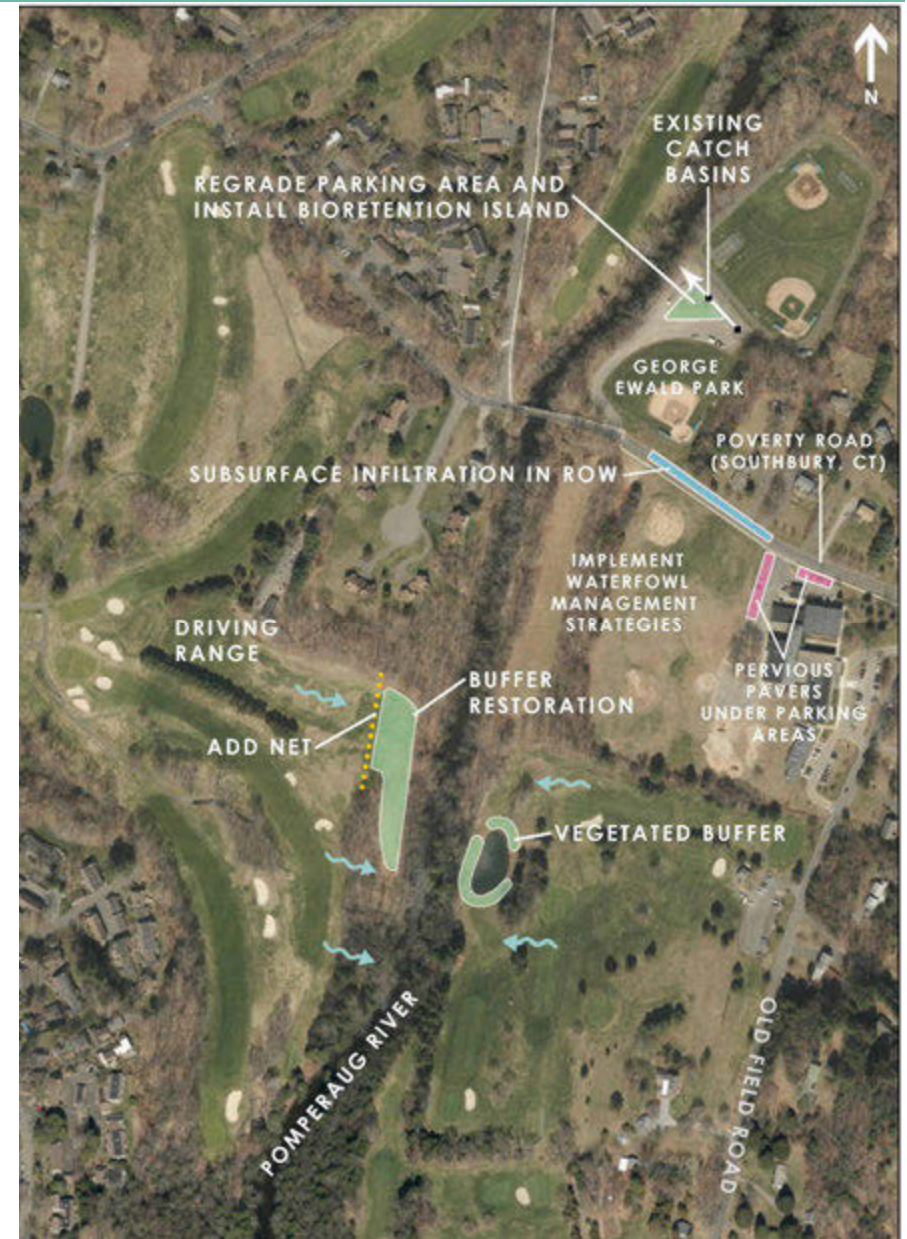
- Oakdale Road, Southbury
- Lower Pomperaug River
- Estimated Costs:
 - Subsurface Infiltration: \$80-170K
 - Infiltration Basins: \$50-100K



Site-Specific BMP Concepts

Golf Courses, School, Town Park

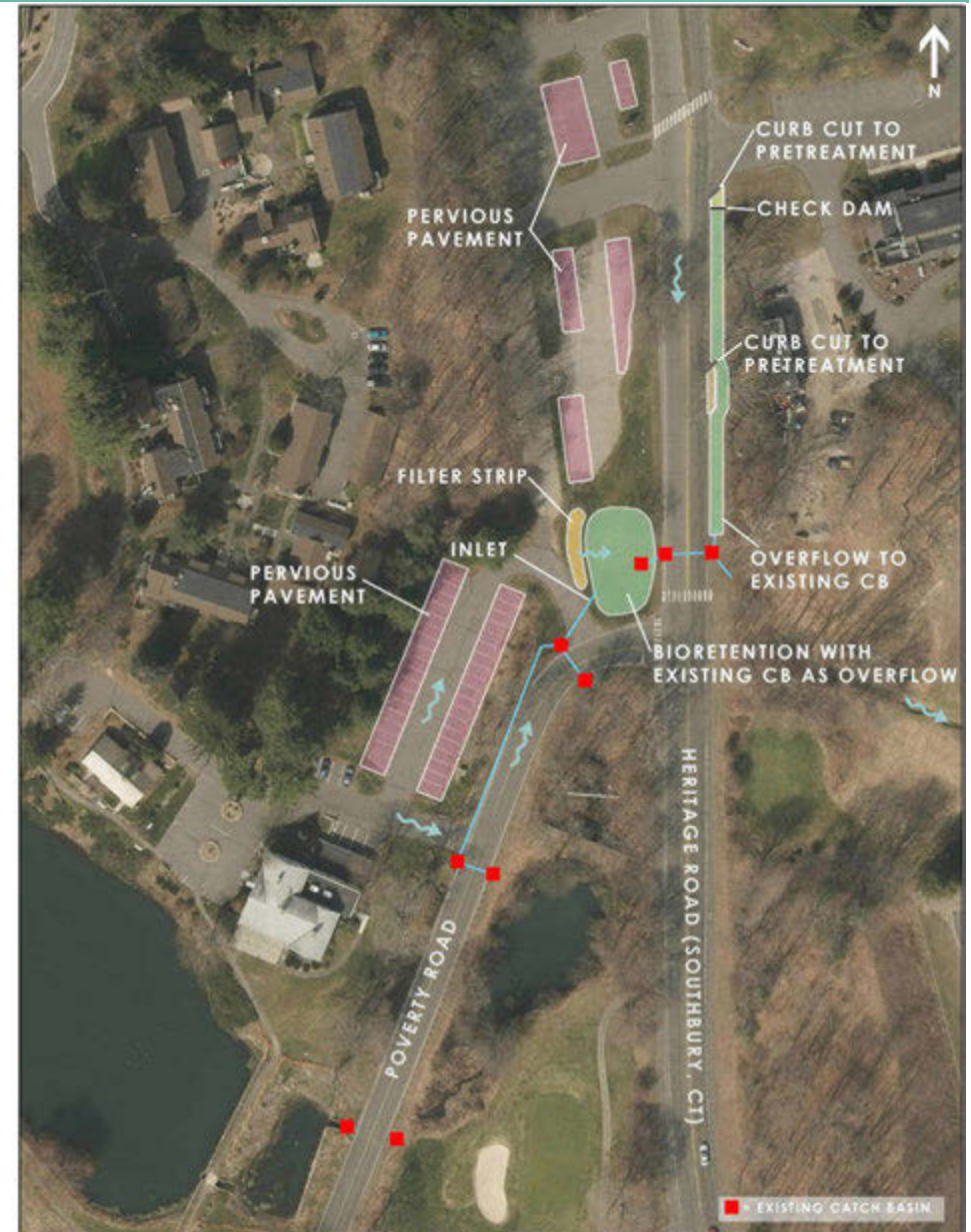
- Poverty Road Crossing, Southbury
- Pomperaug River
- Estimated Costs:
 - Bioretention: \$26-56K
 - Subsurface Infiltration: \$175-375K
 - Permeable Pavement: \$13-29K
 - Buffer Restoration: \$8-18K



Site-Specific BMP Concepts

Mixed Residential/Commercial

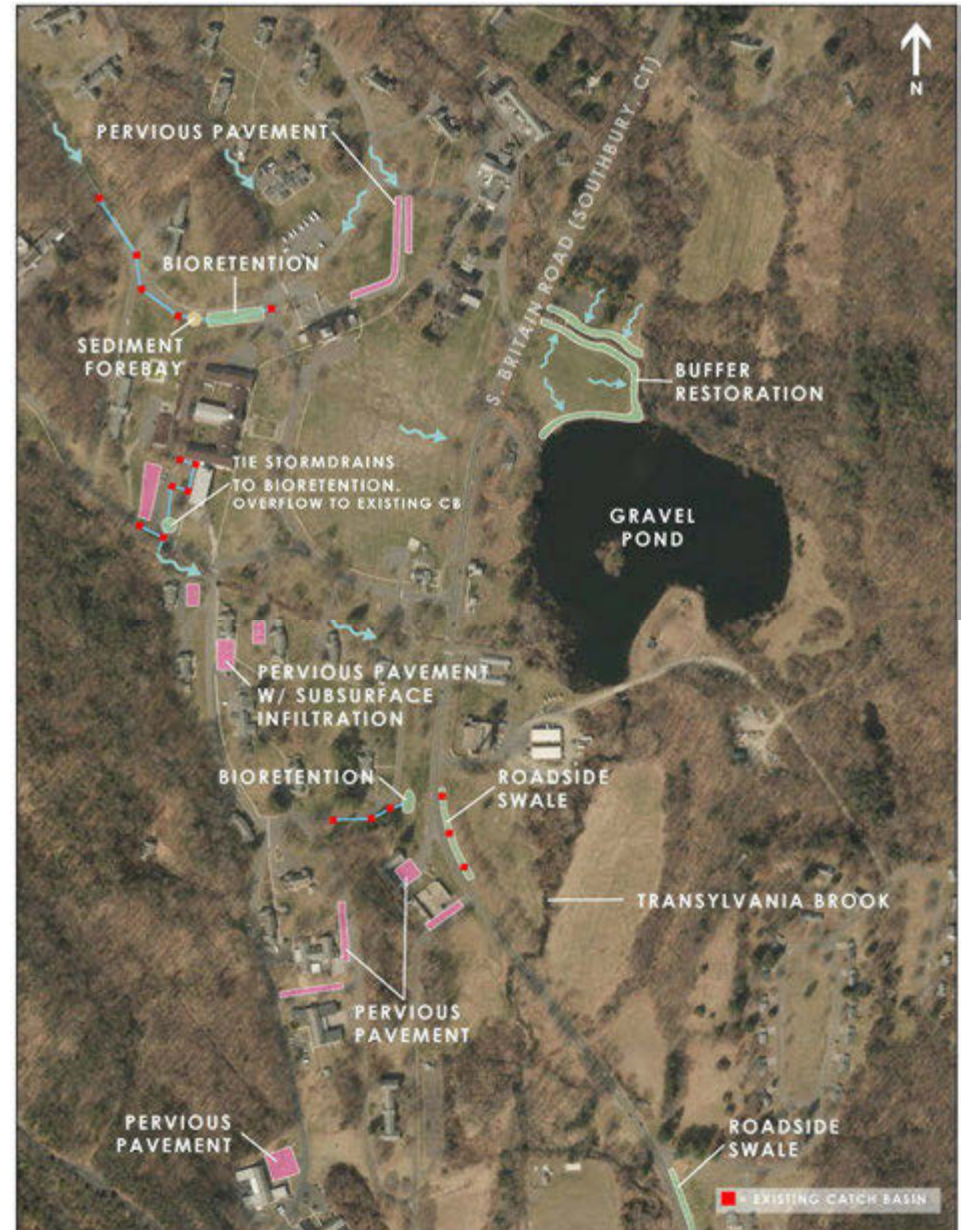
- Heritage Village, Southbury
- Pomperaug River
- Significant opportunities, GI/LID retrofit master planning
- Estimated Costs:
 - Bioretention: \$29-63K
 - Subsurface Infiltration: \$100-210K
 - Infiltration Basins: \$170-360K
 - Water Quality Swale: \$16-35K
 - Permeable Pavement: \$110-240K



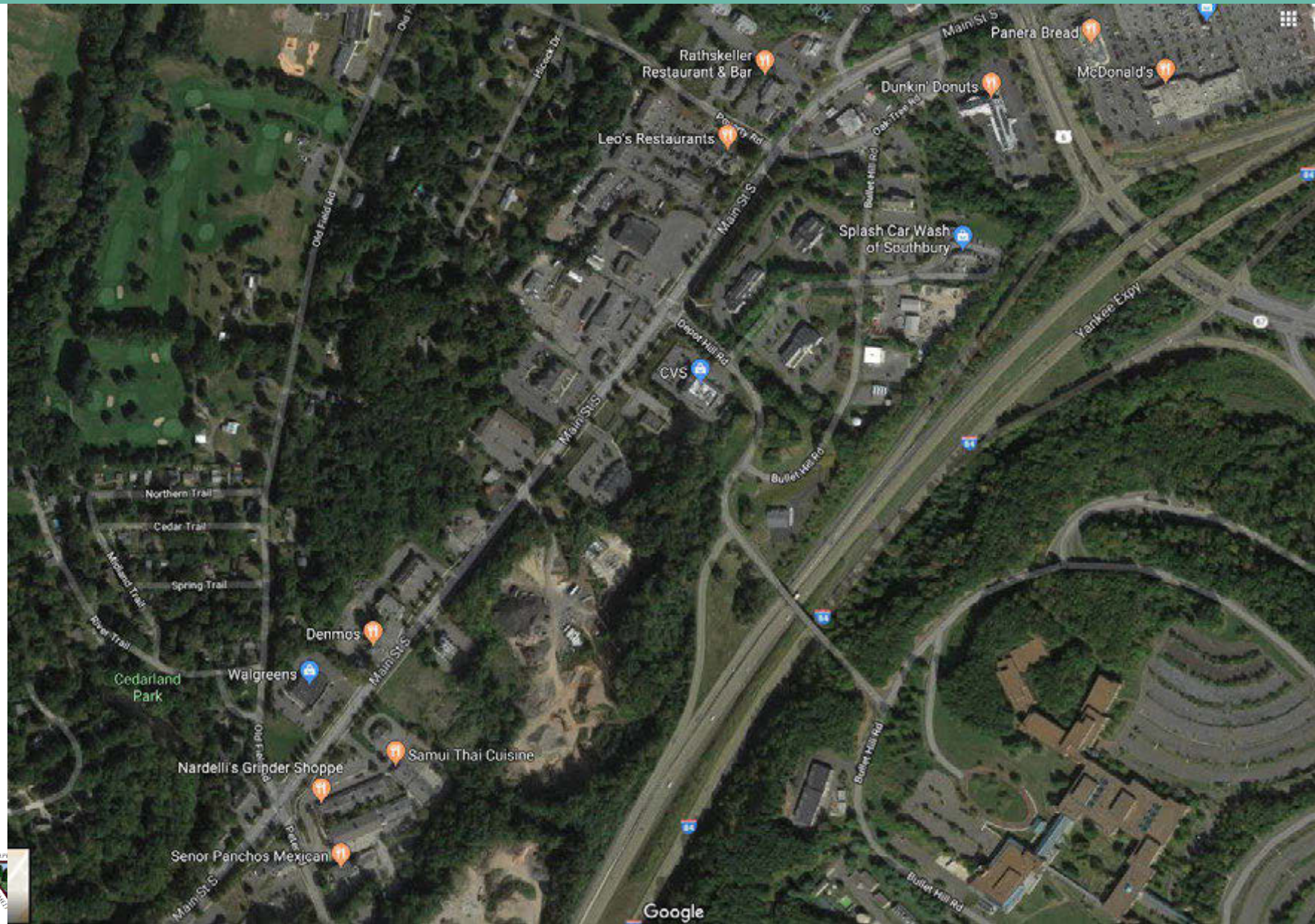
Site-Specific BMP Concepts

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



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"



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

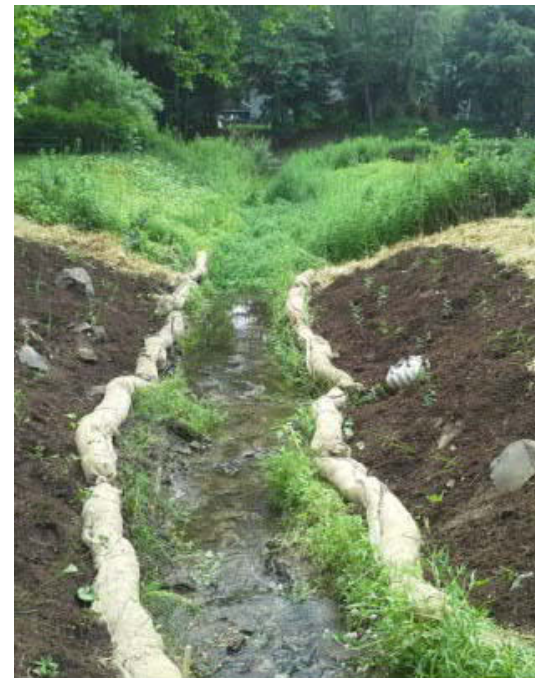
Stream Buffers

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



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

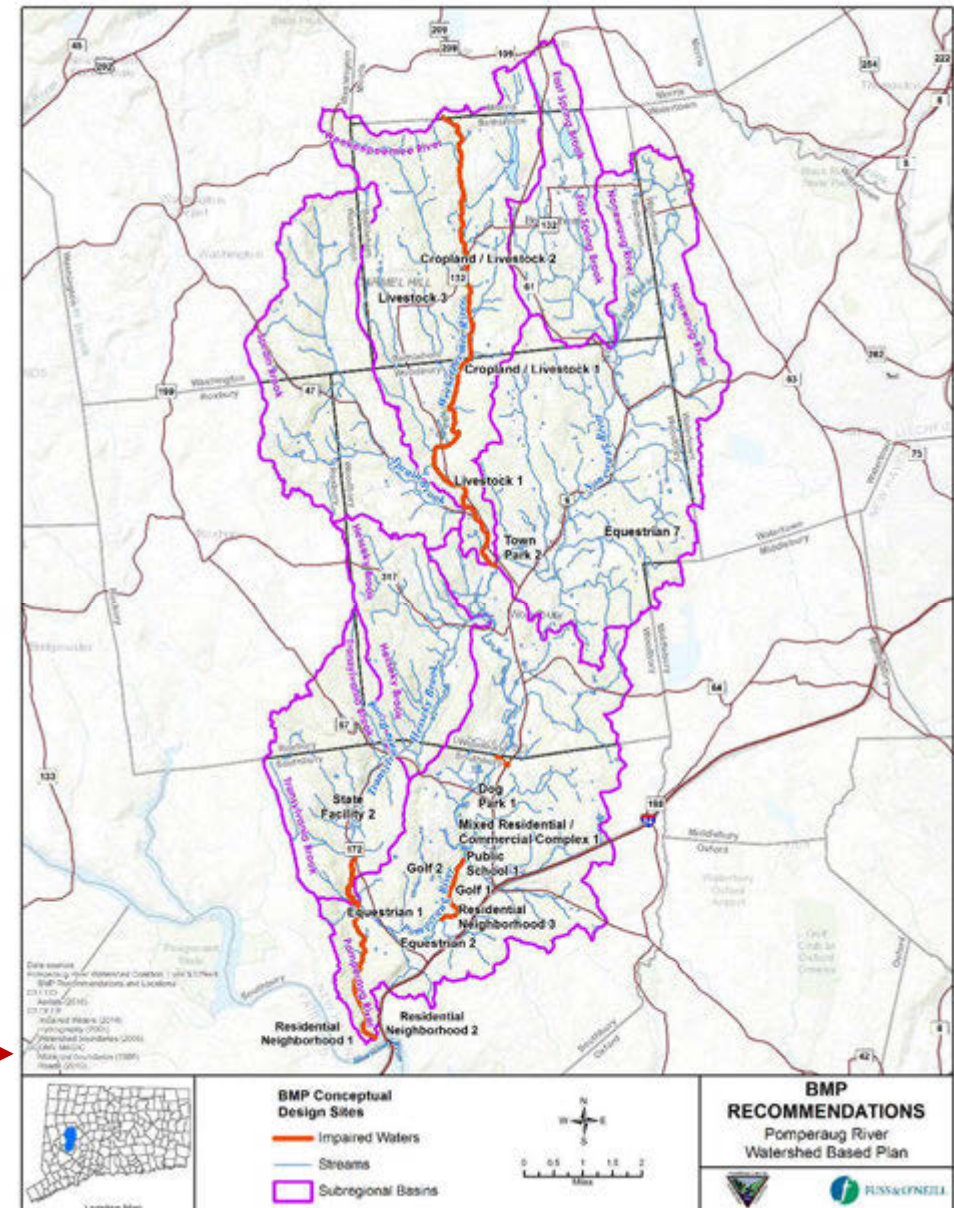
Town Park

- Weekepeemee, 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

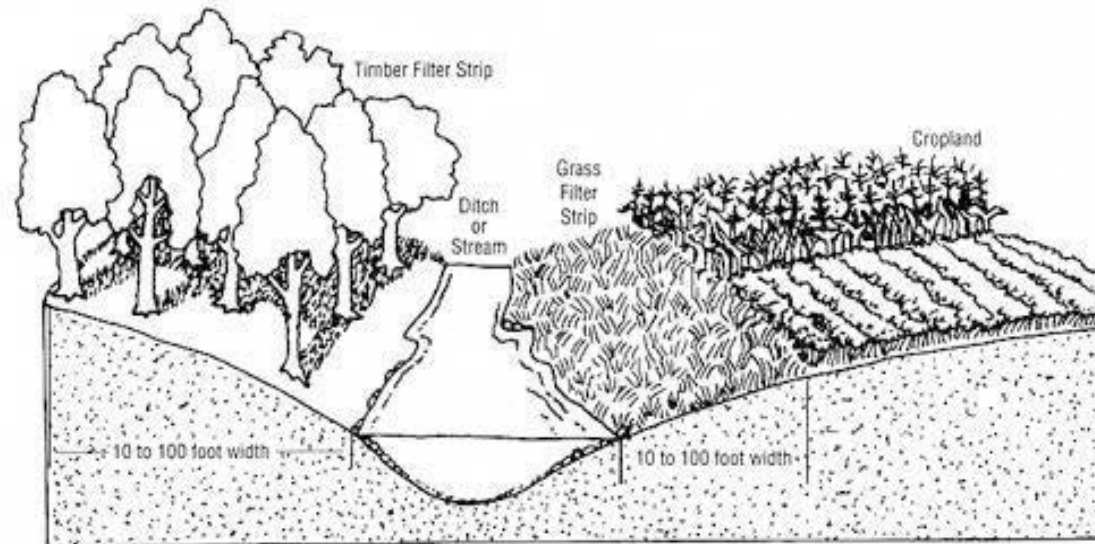
Vegetated Buffers, Filter Strips, Exclusion Fencing

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



Agricultural BMPs

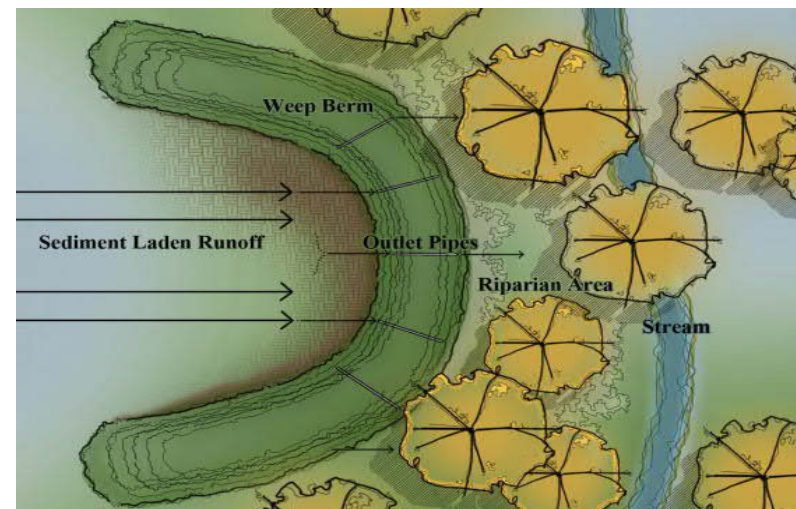
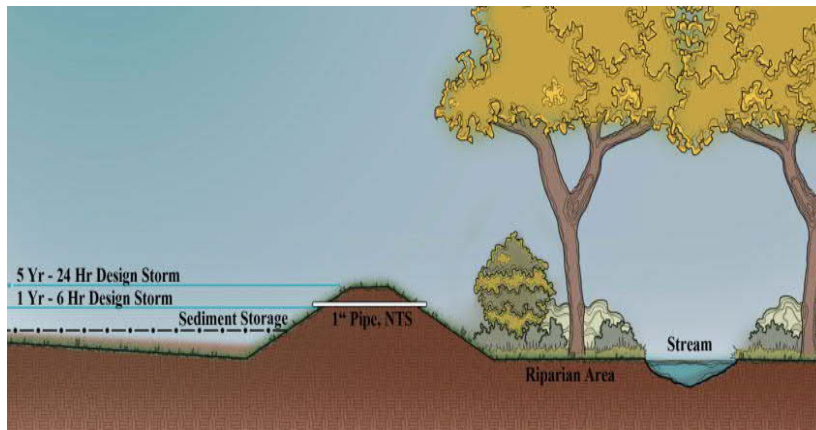
Vegetated Buffers, Filter Strips, Exclusion Fencing



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 Weekepeemee River
- Buffer Restoration and Paddock Reconfiguration
- Optional Filter Berm
- Estimated Costs
 - \$30-70K



Site-Specific BMP Concepts

Livestock Farm, Woodbury

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



Site-Specific BMP Concepts

Equestrian Facility, Southbury

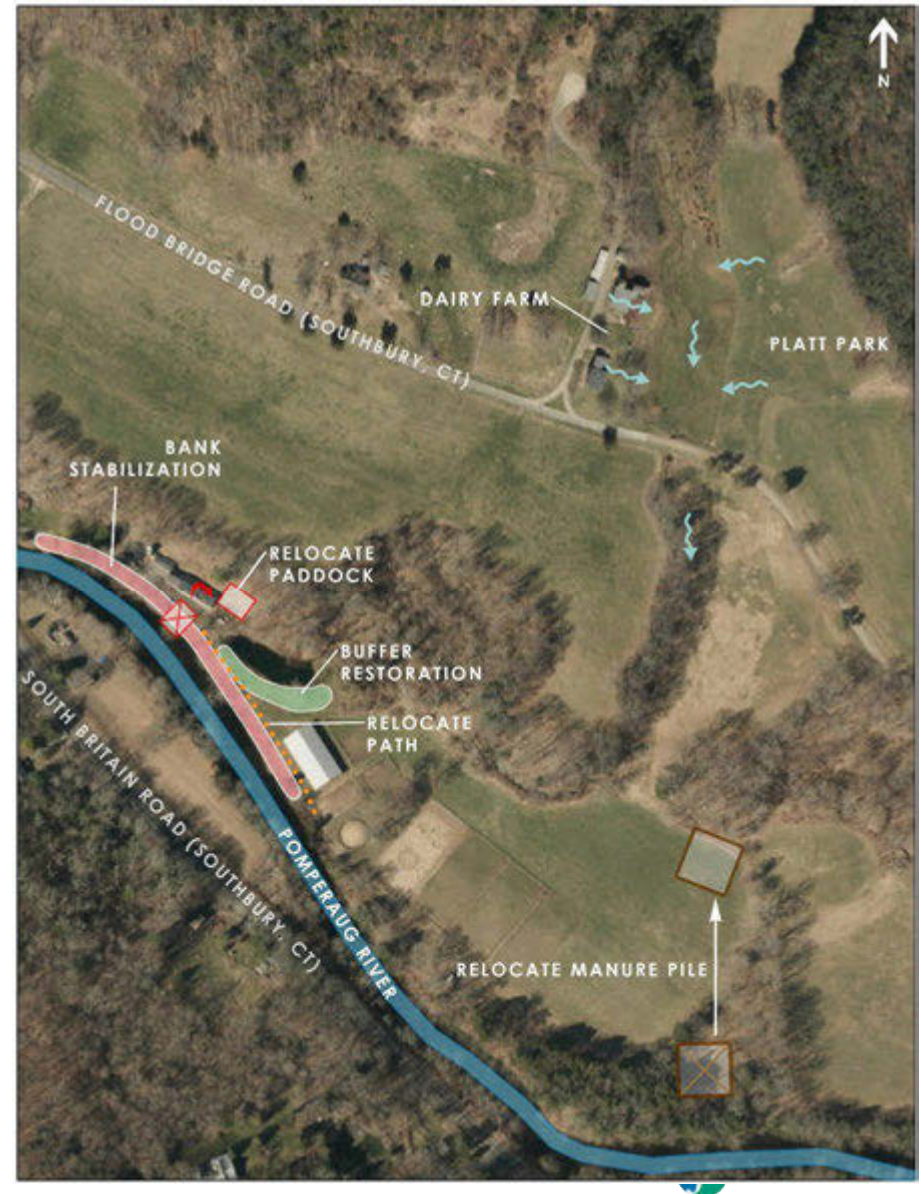
- Transylvania Brook and Pomperaug River near Audubon Center at Bent of the River
- Buffer Restoration, Exclusion Fencing/Paddock Reconfiguration
- Estimated Costs
 - \$40-60K



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:

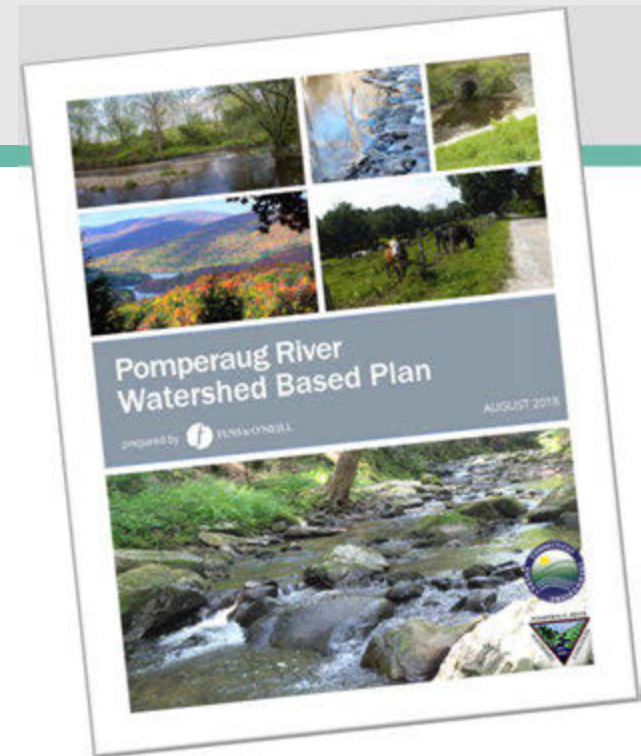
Carol Haskins, Outreach Director

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!



[PRINT AND ONLINE NEWSPAPER ARTICLES](#)

Republican American Newspaper: Towns Seek Watershed Plan: Southbury, Woodbury, Bethlehem to Hunt Pollution Sources (page 1B)

Date: January 25, 2017

Link: N/A

Republican American Newspaper: (Daily Digest) SOUTHBURY – Residents to learn about water quality at Pomperaug Watershed (page 1B)

Date: July 6, 2018

Link: N/A

Southbury HamletHub.com: Public Information Sessions Scheduled: A Look at Water Quality in the Pomperaug Watershed

Date: July 11, 2018

Link: <https://news.hamlethub.com/southbury/neighbors/3871-public-information-sessions-scheduled-a-look-at-water-quality-in-the-pomperaug-watershed>

Republican American Newspaper: (Daily Digest) AREA – Presentations on Water Quality Conditions Today (page 1B)

Date: July 18, 2018

Link: N/A

Republican American Newspaper: – Group to Tackle Bacteria in River (page 1B)

Date: July 19, 2018

Link: N/A

Local News

P



Patriots' Tom Brady

SECTION
BSPORTS STARTS ON THE
BACK OF THIS SECTION

DAILY DIGEST

SOUTHURY

29,000 without power as wind throws trees, limbs onto lines

A night of high winds from a nor'easter knocked out power to around 29,000 Eversource Energy customers statewide.

Mitch Gross, a spokesman for Eversource, said 154 Southbury customers were still without power as of 3 p.m. on Tuesday.

"Last night it was very busy for the crews," he said. "The biggest problem was the high winds taking down trees and branches on the lines, and we responded to accidents with icy roads causing vehicles to go into utility poles, as well."

News reports said the winds reached speeds of close to 50 mph.

"We're concerned when winds are in the 40 mph or higher range, because it's not safe for our crews to be in the bucket trucks," Gross said. "They sometimes have to wait for the winds to die down before they respond to a call."

Statewide, he said approximately 2,000 customers were still without power in the afternoon.

"We're making very good progress and we continue hard at work to get those remaining customers back on," Gross said.

Southbury Public Works Director John F. Cottell Jr. said one big tree fell onto wires on Bucks

Towns seek watershed plan

Southbury, Woodbury, Bethlehem to hunt pollution sources

BY HANNA SNYDER GAMBINI
REPUBLICAN-AMERICAN

WOODBURY — The Pomperaug River Watershed Coalition will work with land use officials in Southbury, Woodbury and Bethlehem to create an updated watershed plan.

The goal of the plan is twofold, to identify sources of river bacteria and determine remediation and prevention of further pollution.

"This plan will be used as a road map to return impaired waters to swimmable and fishable conditions, and this

"THIS PLAN WILL BE USED AS A ROAD MAP TO RETURN IMPAIRED WATERS TO SWIMMABLE AND FISHABLE CONDITIONS."

CAROL HASKINGS, PRWC OUTREACH DIRECTOR

document will be used as a guide to evaluate changes through time," said PRWC Outreach Director Carol Haskings. She gave a presentation at a recent joint land use meeting in Woodbury where land use board members and town officials gathered.

Haskings said the coalition is early in the process, but at-

tending the land use meeting was a way of introducing the work that needs to be done to create the plan. Coalition members have been talking with Southbury's town planner and will meet with land use boards there. Meetings with members of Bethlehem's wetlands board and conservation commission are planned in about three weeks,

Haskings said.

"We want them involved early on in the process, and we're looking for their expertise and wisdom that we might not know about," she said. Mainly, coalition members are looking for town officials to brainstorm potential sources of bacteria in the Weekepeemee and Pomperaug rivers and the Transylvania Brook.

"We're trying to hone in what type of land use activities or locations are contributing to bacteria, and re-

See **WATER**, Page 4B

WATER: It's time to update 2006 plan

mediation projects to reduce levels," she said. "This will be an exercise in creative problem solving."

Analyzing how the bacteria affects recreational activities like swimming and fishing in these waterways is a priority, but it's difficult to determine if bacteria levels have increased.

Haskings said more data is available on bacteria levels because there has been more monitoring in the past five years or so. "There may have been just as much 10 years ago but we didn't know because we didn't monitor," she said.

The coalition was formed in 1999 and a watershed management plan was created in 2006. That plan's shelf life is just about expired, so it's time for an updated plan, she said. Furthermore, the

coalition needs to have an approved plan to be eligible for federal grants and grants specific to implementing the remediation process.

The Environmental Protection Agency is the funding source, and it has created a template for what is to be included in a management plan.

"We're updating our plan to meet that template," she said.

The goal is to have a plan in place by the end of this year, with field work starting in April or May, Haskings said. The next step is to circle back with town planners or wetland agents after the initial presentations to get the brainstorming started.

Funding for the plan comes from the Department of Energy and Environmental Protection and the Connecticut Community Foundation.

Local News

≡ P

DAILY DIGEST

SOUTHBURY

Man arrested after dumping pitcher of water on woman

A local man was arrested after a domestic incident Tuesday night in which he allegedly dumped a pitcher of water over a woman's head.

SOUTHBURY

Residents to learn about water quality at Pomperaug Watershed

The Pomperaug River Watershed Coalition invites residents of Bethlehem, Woodbury, Southbury, Washington, Roxbury, Watertown, Morris and Middlebury to attend one of three upcoming presentations to learn about the water quality conditions of local rivers and streams flowing through the Pomperaug Watershed.

The presentations will provide an update and overview of the stream conditions and estimates on the volume sediment, nutrients and bacteria that have potential to find their way into nearby rivers and streams during a rainstorm or during snow melt.

PRWC is in the process of updating its 2005 Watershed Management Plan to a 9-Element Watershed Based Plan. It will seek community input to help refine the plan, which will serve as a road map for state and local agencies to implement measures to further protect and enhance local water resources. The reduction of bacteria to local rivers and streams also supports a statewide initiative to reduce the amount of bacteria and nutrients flowing into Long Island Sound.

Presentation dates, times, and locations are: Tuesday July 17 at 7 p.m. in the Shove Building at the Woodbury Municipal Complex; Wednesday July 18 at 2 p.m. in Room 205 at Southbury Town Hall; and Wednesday July 18 at 6:30 p.m. in the Leever Room at the Bethlehem Public Library.

A fourth presentation, one that integrates the community input during the July presentations and overall strategies included in the updated Watershed Plan, is scheduled for Wednesday Aug. 22 at 7 p.m. at the Woodbury Senior Center.

Information about the local water quality conditions and the Watershed Plan update can be found at www.pomperaug.org. For information, contact Carol Haskins at 203-263-0076 or outreach@pomperaug.org.



Public Information Sessions...

The Pomperaug River Watershed Coalition ("PRWC") invites residents and other interested individuals of Bethlehem, Woodbury, Southbury, Washington, Roxbury, Watertown,...



Southbury Dancers Medal At...



Acts 4 Ministry Seeking...



Naugahuck Valley Community College...



Walk for Wade at Pomperaug High...



Summer at Southbury Public Library



Southbury artist featured at...

Subscribe

Email address

Subscribe

Follow Southbury HamleHub

city chic with suburban ease

...with a suburban ease...

Upcoming events

- DMBA Summer Cinema Series
Thu 6:00 PM - 10:00 PM \$0.00
- Trinity Lutheran Church and Good

Public Information Sessions Scheduled: A Look at Water Quality in the Pomperaug Watershed

Like Share Share G+

Tweet



Published on Wednesday, 11 July 2018 16:29

Written by Pomperaug River Watershed Coalition



PREV

1 of 3

NEXT

The Pomperaug River Watershed Coalition ("PRWC") invites residents and other interested individuals of Bethlehem, Woodbury, Southbury, Washington, Roxbury, Watertown, Morris, and Middlebury to attend one of three upcoming presentations to learn about the water quality conditions of local rivers and streams flowing through the Pomperaug Watershed.

The presentations will provide an update and overview of the stream conditions as described in Connecticut Department of Energy and Environmental Protection's Integrated most recent Water Quality Report to Congress (2016)

as well as the results of a geospatial computer model used to estimate the volume sediment, nutrients, and bacteria that have potential to find their way into nearby rivers and streams during a rain storm or during snow melt.

"As a science-based organization, we are aiming to better understand changing conditions and potential threats to our rivers and streams so we can continue to help protect healthy waters and work to improve conditions where necessary," says Carol Haskins, PRWC Outreach Director. "As a coalition-based organization, we want to ensure our community has an opportunity to learn about our work and to provide input regarding the long-term stewardship of our shared water resources."

PRWC is in the process of updating its 2005 Watershed Management Plan to a 9-Element Watershed Based Plan ("Plan"), a project funded in part by Connecticut Department of Energy and Environmental Protection through a United States Environmental Protection Agency ("EPA") Clean Water Act Section 319 Nonpoint Source Grant as well as by Connecticut Community Foundation. Revisions to the

Plans are being made with guidance and oversight from PRWC's Land Use Committee whose membership includes but is not limited to representatives from local conservation organizations, town land use departments, as well as regional, state, and federal agencies.

A key milestone for the Plan was recently completed and is ready to share and pertains to the pollutant loading model that was applied to the watershed. The model results describe the relative potential of different land cover types to contribute pollutants like bacteria, nutrients, and sediment to nearby rivers and streams as well as the overall volume of each pollutant that could end up in a local waterway. Both the relative potential and volume are estimated using a computer-based pollutant loading model and the most current land cover, precipitation, soil, slope, and other geospatial data available.

The main focus of the Plan is to identify measures that should be implemented to reduce the amount of bacteria entering the local streams currently listed as impaired by CT Department of Energy and Environmental Protection and EPA. There are four stream segments in the Pomperaug Basin where in-stream bacteria levels were measured in excess of the water quality standard for recreation. It is important to note that the DEEP data supporting these listings are limited and are dated. Further evaluation and potential restoration is required to remove these stream segments from the State/Federal list of impaired waters.

During the upcoming presentations, PRWC and the environmental consulting team of Fuss & O'Neill will describe the local impairments and the nuances of the data supporting the designation of these stream segments, provide an updated look at the land cover conditions in the watershed, explain the results of the pollutant loading model, and discuss general strategies that could be implemented to reduce the volume of bacteria entering local streams. PRWC will seek community input to help refine the Plan which will serve as a road map for state and local agencies to implement measures to further protect and enhance local water resources. The reduction of bacteria to local rivers and streams also supports a state-wide initiative to reduce the amount of bacteria and nutrients flowing into Long Island Sound.

The three presentations coming up will be identical in content and are being offered at different locations and times throughout the watershed with the hope to make it convenient for residents to attend. Presentation dates, times, and locations are: Tuesday July 17 at 7:00PM in the Shove Building at the Woodbury Municipal Complex; Wednesday July 18 at 2:00 PM in Room 205 at Southbury Town Hall; and Wednesday July 18 at 6:30 PM in the Leever Room at the Bethlehem Public Library.

A fourth presentation, one that integrates the community input during the July presentations and overall strategies included in the updated Watershed Plan, is scheduled for Wednesday August 22 at 7:00 PM at the Woodbury Senior Center.

Additional information about the local water quality conditions and the Watershed Plan update can be found at www.pomperaug.org. Questions or comments may be directed to Carol Haskins at 203-263-0076 or outreach@pomperaug.org.

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[Southbury Dancers Medal At...](#)



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DAILY DIGEST

SOUTHBURY

Crews to begin storm debris pickup Monday

Residents should have vegetative storm debris from the May tornado in the town right-of-way, about 10 feet from the road, by this Monday when workers will start the process of removing it all.

Several crews will move as quickly as possible, according to the First Selectmen's Office. But residents should be advised the crews will only make one pass on each street.

AREA

Presentations on water quality conditions today

The Pomperaug River Watershed Coalition invites residents and other interested individuals of Bethlehem, Woodbury, Southbury, Washington, Roxbury, Watertown, Morris and Middlebury to attend presentations to learn about the water quality conditions of local rivers and streams flowing through the Pomperaug Watershed.

The presentations will provide an update and overview of the stream conditions as described in Connecticut Department of Energy and Environmental Protection's Integrated most recent Water Quality Report to Congress as well as the results of a geospatial computer model used to estimate the volume sediment, nutrients and bacteria that have potential to find their way into nearby rivers and streams during a rainstorm or during snow melt.

There are two presentations today at 2 p.m. in Room 205 at Southbury Town Hall; and at 6:30 p.m. in the Leever Room at the Bethlehem Public Library.

A presentation that integrates the community input during the July presentations and overall strategies included in the updated Watershed Plan, is scheduled for Wednesday, Aug. 22 at 7 p.m. at the Woodbury Senior Center.

Additional information about the local water quality conditions and the Watershed Plan update can be found at www.pomperaug.org. Questions or comments may be directed to Carol Haskins at 203-263-0076 or email outreach@pomperaug.org.

SOUTHBURY

Police: Middlebury man, 23, crashed car on side of road

Extens

Neighbors opposed

BY BILL BITTAR
REPUBLICAN-AMERICAN

SOUTHBURY — A hearing on developer Kevin Bennett's plan to build The Meadows apartments, a 14-unit affordable housing community at 390 Roxbury Road, has been continued to Aug. 28.

A group of neighbors opposed to the application at-

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ROAD WOR



Local News

P

Group to tackle bacteria in river

BY STEVE BIGHAM
REPUBLICAN-AMERICAN

SOUTHBURY — The Pomperaug River Watershed received mostly high marks this week, but officials say there are areas along the river system that are considered "impaired" due to high e-coli bacteria levels.

And the culprits include increased land development, poor drainage, failed septic systems, geese and farms animals.

But it's not the drinking water that residents have to be concerned with — the aquifers here run deep and the water is pure, officials said. The concern lies in the bacteria-filled water runoff that makes its way into rivers and streams, affecting swimming, boating and fishing.

On Wednesday, officials from the Pomperaug River Water Coalition laid out some of the issues facing the 90-square mile watershed along with recommendations to address the problem. It's part of the group's mission to provide information, hear from residents and then complete an improved water quality plan of action by late summer.

The Pomperaug River Watershed sits mainly in the towns of Bethlehem, Southbury and Woodbury, although it touches eight towns.

The Weekepeemee River is part of the watershed and has been on the state's impaired list since 2012. According to the environmental consulting firm of Fuss & O'Neill, much of the problem stems from runoff from agricultural areas and equestrian facilities. The firm — hired to assist in the planning update — is calling for improved manure management. It has suggested a variety of

See RIVER, Page 3B



STEVE BIGHAM REPUBLICAN-AMERICAN

Stefan Bengtson of Fuss & O'Neill makes a presentation Wednesday in Southbury on plans to improve water quality in the Pomperaug River Watershed.

RIVER: Simple tasks will help watershed

berms, buffers and other mechanisms to keep bacteria out of the groundwater. Some improvements are as simple as cleaning up better after livestock, but others are bigger projects.

Southbury First Selectman Jeffrey A. Manville said the costs to farmers to incorporate these measures are prohibitive.

"It can cost a farmer \$175,000. There's no way for a small farmer to afford this. I've done the numbers. It's impossible for farmers. I'm a farmer. I would love to, but it's impossible," he said.

Susan Peterson of the state's Department of Energy and Environmental Protection said there are a number of grants and other funding aids farmers can use. But she understands the struggle.

"I realize it's difficult, but we want to crack that nut somehow," she said.

In more developed areas where more land is paved and covered with buildings and homes, storm water is unable to percolate into the ground where it can be naturally filtered. Instead, officials say, this "urban drainage" is making its way directly into streams or wetlands that lead to the Pomperaug River, then into Lake Zoar, the Housatonic River and eventually Long Island Sound.

"We're trying to get the water to go directly into the ground where it can be filtered rather than directly into the pipe that leads to a stream," explained scientist Stefan Bengtson of Fuss & O'Neill.

Low impact development solutions include permeable pavement, bio-retention safeguards, under-

ground filtration systems and even a vegetative treatment system, which replicates natural water-treating wetlands.

Another source of contaminated water are geese whose droppings get into the brooks and streams of the watershed.

Officials also point to what they refer to as illicit connections such as pipes, ditches and other man-made structures that deliver sediments, bacteria and other material directly into the watershed.

Southbury resident Thad Burr voiced his concerns about not just water quality, but water quantity, or lack thereof. He reported that a number of wells have gone dry since the recent opening of CPV Towantic Energy Center power plant in Oxford.

PRWC Executive Director Len DeJong said that is not part of this report — nor is pesticide and herbicide pollutants — but that they are issues that are being tackled at the state level. Another threat to the watershed is the salt used on roads during the winter, Burr said.

The Transylvania Brook is also considered impaired as are some isolated spots along the Pomperaug River itself.

Officials plan to increase their monitoring of bacteria counts at 14 stream locations. These areas will be tested once a month from April to October.

The Pomperaug River Watershed encompasses all the land that drains into the Pomperaug River. The watershed plan — which is required by the DEEP and Environmental Protection Agency for funding eligibility — was last updated in 2006.

[PRWC WEBSITE](#)

Project Landing Page: Pomperaug Watershed Based Plan

Link: <http://www.pomperaug.org/water-resources-management-plan>

Blog Post: Updating the Pomperaug Watershed Management Plan

Date: December 5, 2016

Link: <http://www.pomperaug.org/single-post/2016/12/05/Updating-the-Pomperaug-Watershed-Management-Plan>

Blog Post: Pomperaug River Watershed Based Plan Proposals Sought

Date: May 19, 2016

Link: <http://www.pomperaug.org/single-post/2016/05/19/Pomperaug-River-Watershed-Based-Plan-Proposals-Sought>

Blog Post: Stream Surveys Soon Underway

Date: April 14, 2017

Link: <http://www.pomperaug.org/single-post/2017/04/14/Stream-Surveys-Soon-Underway>

Blog Post: Watershed Coalition to Assess Local Streams in August

Date: August 8, 2017

Link: <http://www.pomperaug.org/single-post/2017/08/08/Watershed-Coalition-to-Assess-Local-Streams-in-August>

Blog Post: Watershed Based Planning Continues

Date: November 17, 2017

Link: <http://www.pomperaug.org/single-post/2017/11/17/Watershed-Based-Planning-Continues>

Blog Post: Pollutant Load Modeling Completed for the Pomperaug

Date: April 2, 2018

Link: <http://www.pomperaug.org/single-post/2018/03/26/Pollutant-Load-Modeling-Completed-for-the-Pomperaug>

Blog Post: Public Information Sessions Scheduled – A Look at Water Quality in the Pomperaug Watershed

Date: July 6, 2018

Link: <http://www.pomperaug.org/single-post/2018/07/05/Information-Sessions-Scheduled-%E2%80%93-A-Look-at-Water-Quality-in-the-Pomperaug-Watershed>

Blog Post: PRWC Presents on Water Quality Conditions

Date: July 20, 2018

Link: <http://www.pomperaug.org/single-post/2018/07/20/PRWC-Presents-on-Water-Quality-Conditions>



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Pomperaug Watershed Based Plan

PRWC received a grant award from CT Department of Energy and Environmental Protection to update and upgrade its Watershed Management Plan to an EPA 9 Element Watershed Based Plan (WBP) in accordance with Section 319 of the Federal Clean Water Act. This is a critical first step to be eligible for future Federal funding for corrective-action projects to improve sections of river that do not fully support recreation or aquatic life because of water-quality or habitat limitations.

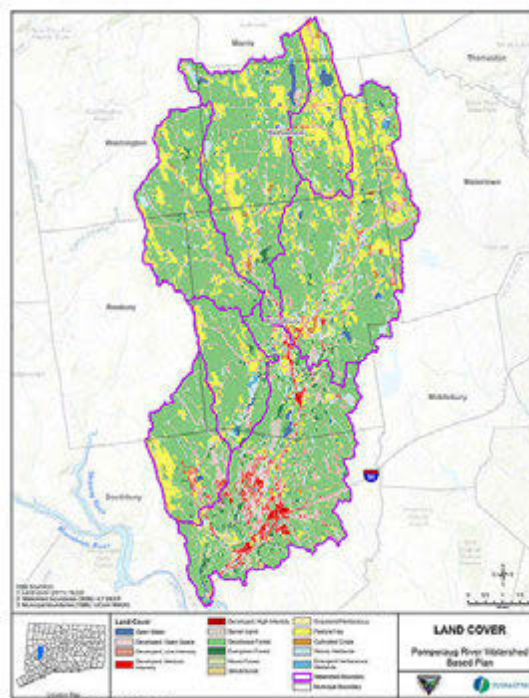
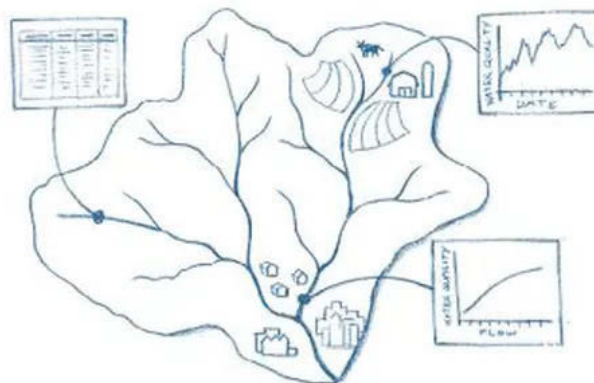
In particular, PRWC will develop plans to address elevated bacteria levels and alterations to the flow regime (historical channelization in particular). PRWC is developing the plan with input from watershed municipalities and other important stakeholders. We will be hosting a series of public forums and seeking input from residents, municipal leaders, town commissions, health departments, and key stakeholder groups (utilities, agriculture, business owners, environmental groups, etc). PRWC has engaged the services of Fuss & O'Neill, an environmental consulting firm, to update the Pomperaug Watershed Management Plan to a 9-element Watershed Based Plan for approval by the US Environmental Protection Agency.

The focus of our Watershed Based Plan is to reduce the amount of bacteria entering local streams listed as impaired by CT DEEP and EPA. There are three stream segments in the Pomperaug Basin where in-stream bacteria levels have been measured in excess of the water quality standard for recreation and thus have been listed as impaired.

A key milestone in developing plans to reduce bacterial level was to estimate the potential volume of it that could be carried from the watershed lands into our rivers and streams. We used a pollutant loading model to make such an estimate. The model also provided us with estimates for other pollutants including nutrients like nitrogen and phosphorus as well as total suspended solids (a factor of soil erosion). The model used the most recent land cover data, precipitation data, soil data, and more to estimate the relative sources of these pollutants and their potential volumes that could enter our streams.

PRWC's Land Use Committee will be using this information to determine what practices can be implemented to reduce the pollutant loads and where they may most effectively be implemented to improve in-stream water quality. We encourage you to review the findings of the [pollutant loading model](#) and to attend one of the upcoming information sessions (to be scheduled) to learn more about the model results and next steps in developing and implementing the updated Watershed Based Plan.

[You can read the existing Pomperaug Watershed Management Plan here.](#)



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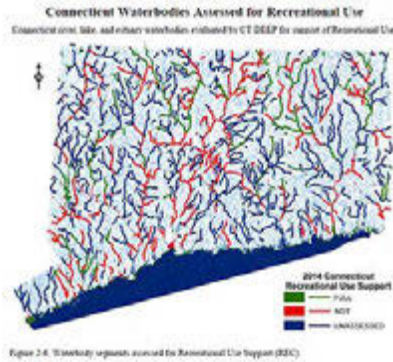
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Updating the Pomperaug Watershed Management Plan

December 5, 2016



Earlier this year, PRWC signed a grant contract with the State of Connecticut's Department of Energy and Environmental Protection that awarded PRWC with a grant to be used to update its Watershed Management Plan (WMP). We also received a matching grant from the Connecticut Community Foundation.

In September, we hired the consulting firm of Fuss & O'Neill to help us create a Plan that will develop site specific plans for remediating stream pollutants like bacteria and restoring instream habitat.

This update of the Pomperaug Watershed Management Plan is being driven by a couple of factors: (1) timing- it has been 10 years since the plan was last updated; (2) format - the U.S. Environmental Protection Agency has adopted a prescribed format for these plans and organizations must have an approved plan to be eligible for program, future restoration project funding; and, (3)

new areas of concern - a greater number of monitoring locations since the time of the last WMP has revealed new sites where data do not meet federal water quality standards. We are compiling the existing information and conducting field assessment surveys to better gauge the scope of factors that may be contributing to reduced water quality conditions. Stakeholder input will also be sought throughout the planning process. Please stay tuned for announcements about presentations of this information in your town and the opportunity to share your input on issues we may have missed.

Photo caption: Stream segments shown in red do not meet water quality standards to support recreational activities like swimming. Image Source: CT DEEP's 2014 Integrated Water Quality Report to Congress.



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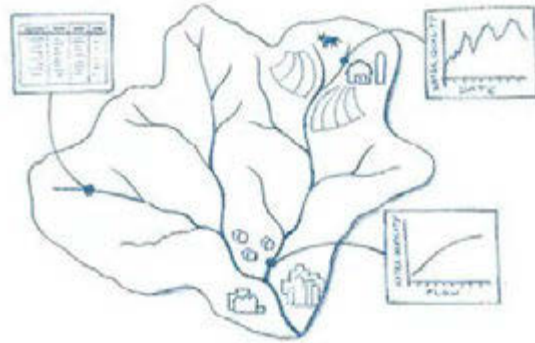
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Pomperaug River Watershed Based Plan Proposals Sought

May 19, 2016

The Pomperaug River Watershed Coalition (PRWC) is [requesting proposals](#) from qualified professionals to assist in the preparation of an EPA 9 Element Watershed Based Plan (WBP) in accordance with Section 319 of the Federal Clean Water Act (CWA). This project will update PRWC's current watershed management plan to address the effect of Non-Point Source (NPS) pollution within the Pomperaug River Watershed, consistent with policies and guidance set forth by the U.S. Environmental Protection Agency (EPA) and the Connecticut Department of Energy and Environmental Protection (CT DEEP).

Proposal Deadline: Interested consultants shall submit 5 copies of their qualifications, detailed scope of services and fee by 2:00 PM on June 24, 2016



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Stream Surveys Soon Underway

April 14, 2017



This spring, field technicians from Fuss & O'Neill, the consulting firm we hired to assist us in revising our [Watershed Management Plan](#), will be conducting visual assessment surveys along impaired stream segments of the Pomperaug and Weekepeemee Rivers. Surveys data will help us better gauge the scope of factors that may be contributing to reduced water quality conditions of these waterways.

The findings will be used to develop site specific plans for remediating pollutants like bacteria and for restoring instream habitat. These plans will then be incorporated into the updated [Watershed Management Plan](#).



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Information Sessions Scheduled – A Look at Water Quality in the Pomperaug Watershed

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Town of Woodbury Planning Commission Public Workshops - July 19th.
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River Ramblers: Southford Falls
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River Ramblers: Swendsen Farm Preserve
July 2, 2018



PRWC seeking volunteers for Rain Garden planting
July 2, 2018

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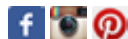
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Watershed Coalition to Assess Local Streams in August

August 8, 2017



During the month of August, field scientists from the consulting firm Fuss & O'Neill will be traveling throughout Bethlehem, Woodbury, and Southbury to conduct Visual Assessment Surveys of local rivers and streams on behalf of the Pomperaug River Watershed Coalition (PRWC). This work is part of a larger effort led by PRWC to update and upgrade its Watershed Management Plan ("WMP"), a project funded in part by 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.

Carol Haskins, PRWC Outreach Director said, "Our objectives in updating the Pomperaug Watershed Management Plan are to further evaluate current watershed conditions and identify ways to additionally protect and enhance local water resources."

Haskins noted that the Plan update is being driven by three key factors: (1) timing- it has been 10 years since the plan was last updated; (2) format - the U.S. Environmental Protection Agency has adopted a prescribed format for these plans and organizations must have an approved plan to be eligible for future restoration and protection project funding; and, (3) new areas of concern - a greater number of monitoring locations since the time of the last WMP has revealed new sites where data does not meet federal water quality standards.

In order to best inform this Plan, existing watershed conditions are being evaluated through the use of GIS mapping for the watershed as well as visual assessment survey data that will be collected along various river and stream segments. Visual surveys will provide a general assessment of in-stream habitat, streambank, riparian buffer, and floodplain conditions; the potential for stormwater runoff to deliver soil, nutrients, and bacteria from the land to nearby waterways; and opportunities to implement green infrastructure (new and retrofits) to reduce stormwater runoff.

In regards to how the data will be used, Erik Mas, Project Manager and Vice President at Fuss & O'Neill said, "These data will help us better gauge the factors that may be contributing to reduced water quality conditions, and will allow us to develop site specific plans where measures can be implemented to minimize bacteria, nutrient and soil inputs into the Pomperaug River and its tributaries as well as to restore in-stream habitat."

The proposed field work will generally occur between 8:00 a.m. and 6:00 p.m., Monday through Friday, during the month of August 2017. Field crews from Fuss & O'Neill will conduct as much of the assessments as possible from within the stream corridor, on public property, and within the public right-of-way. In the event field personnel ask for permission to access property, PRWC hopes that residents living along the waterways will permit Fuss & O'Neill staff access with the understanding that doing so is voluntary.

The findings will be shared during informational sessions slated to be held in Bethlehem, Woodbury, and Southbury in October and November 2017. At that, time PRWC will seek community input. The results of the field assessments will be described in the WMP. State and town agencies in the watershed will be able to utilize the WMP (due in early 2018) to further protect and enhance local water resources.

PRWC's mission is to ensure the availability of high quality water in the Pomperaug Watershed communities through the use of science and education. We share our knowledge and expertise with others committed to the protection of water resources for future generations. Additional information can be at www.pomperaug.org. Questions about the visual assessment surveys and the WMP development can be directed to Carol Haskins, PRWC Outreach Director at 203-263-0076 or by email at chaskins@pomperaug.org; or Erik Mas, P.E. of Fuss & O'Neill, Inc. at 800-286-2469 or at emas@fando.com.

Photo Caption: During the month of August, field scientists from the consulting firm Fuss & O'Neill will be traveling throughout Bethlehem, Woodbury, and Southbury to conduct Visual Assessment Surveys of local rivers and streams (pictured - Nonnewaug River) on behalf of the Pomperaug River Watershed Coalition (PRWC). This work is part of a larger effort led by PRWC to update and upgrade its Watershed Management Plan for the 90-square mile Pomperaug Watershed.

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Watershed Based Planning Continues

November 17, 2017



Late this summer, field scientists from the consulting firm Fuss & O'Neill traveled throughout the watershed to conduct Visual Assessment Surveys of select rivers and streams on behalf of PRWC. This work is part of a larger effort led by PRWC to update and upgrade its Watershed Based Plan, a project funded in part by Connecticut Department of Energy and Environmental Protection through a United States Environmental Protection Agency Clean Water Act Section 319 Nonpoint Source Grant and the Connecticut Community Foundation.

To best inform this Plan, current watershed conditions have been evaluated through the use of GIS mapping, bacteria and nutrient load potential has been estimated through computer modeling, and visual assessment survey data has been collected. The visual surveys have provided a general assessment of in-stream habitat, streambank, riparian buffer, and floodplain conditions; evaluated the potential for stormwater runoff to deliver soil, nutrients, and bacteria from the

landscape to nearby waterways; and identified opportunities to implement green infrastructure to reduce stormwater runoff.

In regards to how the data will be used, Erik Mas, Project Manager and Vice President at Fuss & O'Neill said, "These data will help us better gauge the factors that may be contributing to reduced water quality conditions, and will allow us to develop site specific plans where measures can be implemented to minimize bacteria, nutrient and soil inputs into the Pomperaug River and its tributaries as well as to restore in-stream habitat."

Findings and recommendations will be shared during informational sessions slated to be held in Bethlehem, Southbury, and Woodbury early this winter. At that time, PRWC will seek community input to help refine the Plan which will serve as a road map for state and local agencies to implement protection and restorative measures to further protect and enhance local water resources. The final Plan is expected in late winter.



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Pollutant Load Modeling Completed for the Pomperaug

April 2, 2018



Over the past several months, PRWC has been working with Fuss & O'Neill, an environmental consulting firm, to update the Pomperaug Watershed Management Plan to a 9-element Watershed Based Plan for approval by the US Environmental Protection Agency.

The focus of our Watershed Based Plan is to reduce the amount of bacteria entering the local streams which are listed as impaired by CT Department of Energy and Environmental Protection and EPA. There are three stream segments in the Pomperaug Basin where in-stream bacteria levels were measured in excess of the water quality standard for recreation. While the data supporting these listings have been limited, further evaluation is still required to remove these streams from the State's list of impaired waters.

A key milestone in developing plans to reduce bacterial level was to estimate the potential volume of it that could be carried from the watershed lands into

our rivers and streams. We used a pollutant loading model to make such an estimate. The model also provided us with estimates for other pollutants including nutrients like nitrogen and phosphorus as well as total suspended solids (a factor of soil erosion). The model used the most recent land cover data, precipitation data, soil data, and more to estimate the relative sources of these pollutants and their potential volumes that could enter our streams.

PRWC's Land Use Committee will be using this information to determine what practices can be implemented to reduce the pollutant loads and where they may most effectively be implemented to improve in-stream water quality.

We encourage you to review the findings of the pollutant loading model and to attend one of the upcoming information sessions (to be scheduled) to learn more about the model results and next steps in developing and implementing the updated Watershed Based Plan.



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PRWC Seeks Nominees for 2018 Dr. Marc Taylor Environmental Stewardship Award.
June 13, 2018



U.S. Geological Survey Work Resumes Within and Near the Pomperaug River Watershed Region
June 11, 2018



A Collaborative Approach to Water Resource Management for the Pomperaug River Presented At: Water Supply in Western Connecticut Conference
May 22, 2018



Water Supply in Western Connecticut Conference Friday May 18, 2018, 9:00 am - 2:30 pm Roxbury Town Hall
May 11, 2018

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Information Sessions Scheduled – A Look at Water Quality in the Pomperaug Watershed

July 5, 2018

The Pomperaug River Watershed Coalition ("PRWC") invites residents and other interested individuals of Bethlehem, Woodbury, Southbury, Washington, Roxbury, Watertown, Morris, and Middlebury to attend one of three upcoming presentations to learn about the water quality conditions of local rivers and streams flowing through the Pomperaug Watershed. The presentations will provide an update and overview of the stream conditions as described in Connecticut Department of Energy and Environmental Protection's Integrated most recent Water Quality Report to Congress (2016) as well as the results of a geospatial computer model used to estimate the volume sediment, nutrients, and bacteria that have potential to find their way into nearby rivers and streams during a rain storm or during snow melt.

"As a science-based organization, we are aiming to better understand changing conditions and potential threats to our rivers and streams so we can continue to help protect healthy waters and work to improve conditions where necessary," says Carol Haskins, PRWC Outreach Director. "As a coalition-based organization, we want to ensure our community has an opportunity to learn about our work and to provide input regarding the long-term stewardship of our shared water resources."

PRWC is in the process of updating its 2005 Watershed Management Plan to a 9-Element [Watershed Based Plan](#) ("Plan"), a project funded in part by Connecticut Department of Energy and Environmental Protection through a United States Environmental Protection Agency ("EPA") Clean Water Act Section 319 Nonpoint Source Grant as well as by Connecticut Community Foundation. Revisions to the Plan are being made with guidance and oversight from PRWC's Land Use Committee whose membership includes but is not limited to representatives from local conservation organizations, town land use departments, as well as regional, state, and federal agencies.

A key milestone for the Plan was recently completed and is ready to share and pertains to the pollutant loading model that was applied to the watershed. The model results describe the relative potential of different land cover types to contribute pollutants like bacteria, nutrients, and sediment to nearby rivers and streams as well as the overall volume of each pollutant that could end up in a local waterway. Both the relative potential and volume are estimated using a computer-based pollutant loading model and the most current land cover, precipitation, soil, slope, and other geospatial data available.

The main focus of the Plan is to identify measures that should be implemented to reduce the amount of bacteria entering the local streams currently listed as impaired by CT Department of Energy and Environmental Protection and EPA. There are four stream segments in the Pomperaug Basin where in-stream bacteria levels were measured in excess of the water quality standard for recreation. It is important to note that the DEEP data supporting these listings are limited and are dated. Further evaluation and potential restoration is required to remove these stream segments from the State/Federal list of impaired waters.

During the upcoming presentations, PRWC and the environmental consulting team of Fuss & O'Neill will describe the local impairments and the nuances of the data supporting the designation of these stream segments, provide an updated look at the land cover conditions in the watershed, explain the results of the pollutant loading model, and discuss general strategies that could be implemented to reduce the volume of bacteria entering local streams. PRWC will seek community input to help refine the Plan which will serve as a road map for state and local agencies to implement measures to further protect and enhance local water resources. The reduction of bacteria to local rivers and streams also supports a state-wide initiative to reduce the amount of bacteria and nutrients flowing into Long Island Sound.

The three presentations coming up will be identical in content and are being offered at different locations and times throughout the watershed with the hope to make it convenient for residents to attend. Presentation dates, times, and locations are: Tuesday July 17 at 7:00PM in the Shove Building at the Woodbury Municipal Complex; Wednesday July 18 at 2:00 PM in Room 205 at Southbury Town Hall; and Wednesday July 18 at 6:30 PM in the Leever Room at the Bethlehem Public Library.

A fourth presentation, one that integrates the community input during the July presentations and overall strategies included in the updated Watershed Plan, is scheduled for Wednesday August 22 at 7:00 PM at the Woodbury Senior Center.

Additional information about the local water quality conditions and the Watershed Plan update can be found at www.pomperaug.org. Questions or comments may be directed to Carol Haskins at 203-263-0076 or outreach@pomperaug.org.

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July 5, 2018



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PRWC Presents on Water Quality Conditions

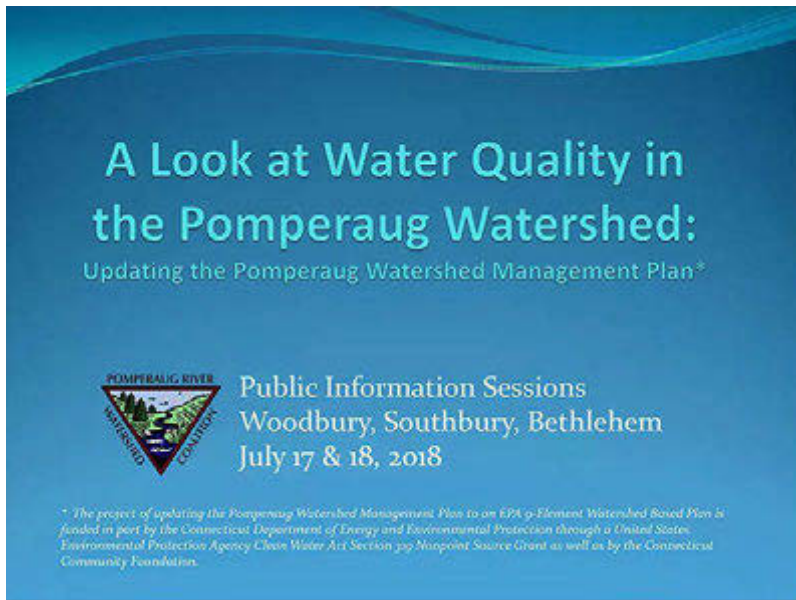
July 20, 2018

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April 2, 2018

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PRWC Presents on Water Quality Conditions July 20, 2018



Public Notice of Proposed Stream Flow Classifications for the Housatonic, Hudson and Southwest Coastal River Basins July 19, 2018



Information Sessions Scheduled - A Look at Water Quality in the Pomperaug Watershed July 5, 2018



Town of Woodbury Planning Commission Public Workshops - July 19th. July 5, 2018



River Ramblers: Southford Falls July 2, 2018

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PRWC NEWSLETTER ARTICLES

Spring 2016 - Watershed News

PRWC Signs Grant Contract with State (page 4)

Link: http://docs.wixstatic.com/ugd/ecda6a_d31b3b7771184a1e80a361c5576f1b73.pdf

Fall Winter 2016-2017 - Watershed News

Updating the Pomperaug Watershed Management Plan (page 1)

Link: http://docs.wixstatic.com/ugd/ecda6a_cfc388fee12344a193d24ef08b29f61c.pdf

Spring Summer 2017 Watershed News

Stream Surveys Soon Underway (page 2)

Link: http://docs.wixstatic.com/ugd/ecda6a_6120bd5c4eea48f7b381d27a1312fdcf.pdf

Fall Winter 2017-2018 Watershed News

Watershed Based Planning Continues (page 1)

Link: http://docs.wixstatic.com/ugd/ecda6a_445250f2acf94d3ebcab0013fde56565.pdf

Spring Summer 2018 Watershed News

Pollutant Load Modeling Completed for the Watershed (page 1)

Link: http://docs.wixstatic.com/ugd/ecda6a_7571311a22084b359ace64a61899469d.pdf

WATERSHED NEWS

Finding ways to keep our water pure and plentiful

Serving the Community Since 1999

Spring 2016

Shaping Connecticut's State Water Plan

The planning effort for the State Water Plan is underway and PRWC is an active "voice at the table" in many aspects of its development, which is led by the Connecticut Water Planning Council. Under Public Act 14-163, the Council was charged with the development of a State Water Plan that is to be submitted to the joint standing committees of the General Assembly by January 1, 2018.

The Public Act identifies 17 requirements for the State Water Plan relating to the environment, public health, planning and development and energy and technology. While each requirement is significant, three are particularly meaningful to PRWC in that the requirements serve to highlight the importance of our core work related to science, research and educational outreach:

- (1) Identify the quantities and qualities of water that are available for public water supply, health, economic, recreation and environmental benefits on a regional basin scale considering both surface and groundwater.
- (2) Recommend the utilization of the state's water resources, including surface and subsurface water, in a manner that balances public water supply, economic development, recreation and ecological health.
- (8) Inform residents of the state about the importance of water resource stewardship and conservation.

PRWC is applying our data and research to the development of the State Water Plan and is underscoring the future local and regional water resource planning needs for our watershed and others across the state. Our participation allows us to highlight what we see as being the most relevant issues including the review of registered water diversion permits and the impact of groundwater withdrawals on stream flow. When completed, the State Water Plan may lead to key water resource policy changes that would be supported by new state laws and regulations.

To learn more about the development of State Water Plan and to stay connected with new information, the state has launched the following website: www.ct.gov/water.

PRWC Hosts Woodbury Earth Day

Woodbury Earth Day is preparing for its 21st Annual Earth Day Celebration. As the largest Earth Day celebration in Connecticut, you won't want to miss this fun celebration with earth-friendly activities for the entire family!

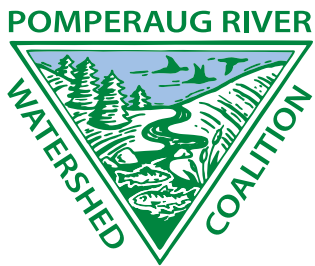


Woodbury Earth Day will feature 130+ vendors, a Main Stage, a Community Stage, a Kids' Activities Tent, and some of the best food trucks in Connecticut. Among the many talented performers and engaging presentations, The Regulators and HannaH's Field will rock the audience while Bring the Hoopla gets them moving. Caseus Cheese Truck, Hardcore Sweet, El Camion and several others will be serving up your favorite eats and Aquarion Water Company will provide drinking water to help wash it all down.

While thinking global and acting local, visitors will enjoy a lively vendor fair including artisans, farmers and growers, environmental organizations, and home improvement services, along with demonstrations like the Live Birds of Prey presented by Audubon Sharon.

Woodbury Earth Day is presented under the leadership of PRWC, and a team of dedicated community volunteers. Event sponsors include New Morning Market, Aquarion Water Company, O&G Industries, USA Hauling, Eversource, The Farm of Woodbury, Brown Tufts Montessori School, Civil 1 Engineering, Woodbury Chevrolet, Power Home Remodeling Group, and Energy Conservation Specialists - Aero Seal, Renewal by Anderson, Splash Car Wash, and Secor, Cassidy & McPartland PC.

Visit our News & Blog at WWW.POMPERAUG.ORG for expanded articles, additional photos, and to learn more about our past, current, and upcoming activities!






CONTACT INFORMATION

Phone: 203-263-0076

Email: info@pomperaug.org

Website: www.pomperaug.org

Social Media:   

PRWC STAFF

Executive Director

Len DeJong

Outreach Director

Carol Haskins

Administrative Assistant

Anne Urkawich

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The Pomperaug Watershed



Reviewing Towantic Energy's Water Management Plan

Historically low river flows and groundwater levels observed during Fall 2015 underscore the importance of proactive water resource management and planning. As reported in our last newsletter, PRWC has been an active participant in advocating for the protection of our water resources in matters pertaining to the future operation by Towantic Energy, LLC of the 785 mega-watt electric generating facility in the town of Oxford. The water supply for the facility would rely mostly on water from a public drinking water source drawn from the Pomperaug Watershed.

The Connecticut Siting Council approved the construction of the facility and, in so doing, required that Towantic update its Water Supply/ Management Plan. When issued, PRWC voiced its concern that the Plan did not adequately address the need to protect our water resources. Most notably PRWC feels that the Plan lacks (1) the required detail needed on securing supplemental out-of-basin water supply that would serve to augment local water resources during periods of drought and high water demand, and (2) the required planning for the facility's water use during drought or other events so as not to unfairly burden existing water customers and cause increased negative impact on stream flow and aquatic health.

With the support of the Southbury First Selectman's office, PRWC will continue to discuss its concerns with Towantic officials in an effort to address these water management planning deficiencies. Doing so is consistent with the commitment made by Towantic within the Plan for: "Communication and coordination with PRWC to facilitate understanding of the dynamic natures of the project's water demands."



In September 2015, a significant stretch of the Weekepeemee River at Three Rivers Park in Woodbury was completely dry. Other streams throughout the watershed also experienced dry channel conditions last fall.

Out and About: Conducting Research and Motivating Stewardship

PRWC prides itself in its research and restoration activities as well as its outreach and education initiatives. In a typical year PRWC conducts an average of 55 programs a year reaching upwards of 150,000 people with water conservation and environmental stewardship messages. Among PRWC's recent activities were presentations to Connecticut Watershed Conservation Network Conference and the Naugatuck Valley Council of Governments (NVCOG) Regional Planners Commission, the Western CT Leadership Program, and the Waterbury Garden Club. Topics included River Smart, Towantic Power, Drought Planning, and the State Water Plan.

With the help of Rachael Caron, 2015 Dr. Marc J. Taylor summer intern, PRWC further extended its environmental stewardship message at the local Farmers' Markets and similar community events like Woodbury's Fall Fest and Southbury's Volunteer Fair. Caron, a Woodbury resident in her junior year at the College of William and Mary, also helped further our research and restoration efforts that include stream temperature monitoring, macroinvertebrate surveying, streamside buffer planting, and stormdrain marking.



Rachael Caron, 2015 summer intern, joined up with Southbury Public Works and UCONN's Cooperative Extension program for a release of weevils to control Mile-a-Minute vine at Ballantine Park in Southbury.

FirstLight Models Shoreline Erosion Prevention

This winter, Earth Tones Native Plant nursery installed an array of erosion prevention measures at the Shepaug Dam canoe portages in Southbury. A ribbon cutting and tour of the rain gardens, swales, and resurfaced trails is slated for Saturday April 30 at 9:00 AM. Attendees are invited to learn about these and other “RiverSmart” practices they can adopt at home. The event coincides with Housatonic Valley Association’s 10-day Source to Sound paddling trip.



Lisa Turoczi of Earth Tones points out a new rain garden at the Shepaug Dam canoe portage on Lake Lillinoah in Southbury.

Community Foundation Honors Collaborations

On August 20, 2015, Connecticut Community Foundation’s Trustees honored the two recipients of its first-ever Trustee Fund Award: River Smart CT, a collaboration of several local environmental organizations and land trusts (including PRWC and Housatonic Valley Association), and Almost Home Summer Camp, an educational and recreational summer program in Waterbury.



PRWC joined with River Smart CT partners in receiving first-time Trustee Fund Award from the Connecticut Community Foundation.

UConn “Water Credits” Research Project

On October 23, PRWC met with Professor Stephen Swallow and a team of researchers from UConn’s Agricultural and Resource Economics program and showed them around the watershed to help them get familiarized with the local hydro-geography. Pomperaug Watershed, with its abundant scientific data, will be a case example in this latest research project focusing on resource economics and water allocation.



PRWC and “Water Credits” research team from UCONN toured the watershed last fall.

Southbury Receives FEMA Grant for Floodplain Restoration

At an August press conference, Congresswoman Elizabeth Esty and Senators Richard Blumenthal and Chris Murphy joined the Town of Southbury in announcing receipt of a grant award made through FEMA’s Hazard Mitigation Grant Program to fund the acquisition and demolition of nine properties in Southbury in a flood-prone area of town.

Over the course of six months during 2011, each house suffered flooding above the first floor elevation, resulting in property damage, ground erosion, loss of personal belongings, and structural damage to the houses. The grant will allow for the houses to be removed and for the parcels to be designated as open space along the Pomperaug River.

Senator Murphy stated that he is “glad that Southbury can finally move forward with this project and help residents transition these dangerous, flood-prone properties along the Pomperaug River into a safe, public space for all residents to enjoy.” Senator Blumenthal underscored that, “[this is] the best course of action for public safety, the environment, and for taxpayers.”



State, federal, and local officials joined together in announcing a FEMA grant award given to the Town of Southbury to mitigate flood hazards; funds were used to buy out nine homes and get the homeowners out of harm’s way.

<p>JAZZ</p> <p>Featuring Berkshire Jazz Orchestra</p> <p>Fine Food & Wine Silent & Live Auctions</p> <p>JUNE 11 4:30</p>	<p>ON THE RIVER</p>  <p>at Mill House Antiques</p> <p>Tickets: \$75 www.pomperaug.org</p>
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Pomperaug River Watershed Coalition

39 Sherman Hill Road, C103

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Help Us Safeguard Water Resources for Generations

Communities need clean water to be vibrant, healthy and sustainable. Pomperaug River Watershed Coalition's volunteers, Board and Advisory Council members, and staff are working on your behalf and those you care about, to ensure continued access to clean water. *We cannot do this critically important work without you.*

Please help us maximize your support by making an online donation to PRWC during Give Local on May 3-4. Your gift will be amplified by matching funds and bonus prize opportunities. Donate online at: www.pomperaug.org.

GIVE LOCAL
Greater Waterbury &
Litchfield Hills!
May 3 - 4, 2016

Presented by:
Connecticut Community Foundation

Volunteers in Action

Last summer and fall, 500 stormdrain markers were installed by volunteers like 6 year old, Brody Dugas (below) of Southbury. Will you help us with the next 500 markers this season?



In September, volunteers joined PRWC for its 10th Annual Macroinvertebrate Survey. The focus of this project is to help the CT Department of Energy and Environmental Protection document high quality streams throughout the state. A special "Gettin' Buggy" kids program (above) was added as part of the activities this year.

PRWC Signs Grant Contract with State

In March 2016, PRWC signed a grant contract with the State of Connecticut's Department of Energy and Environmental Protection that awards PRWC with approximately \$52,000 to be used to update its Watershed Management Plan. The Plan aims to develop site specific plans for remediating stream pollutants like bacteria and restoring instream habitat.



Carol Haskins and Len DeJong, PRWC staff, and Susan Peterson from CT Department of Energy and Environmental Protection look on while John Lacadie, PRWC Secretary, and Vince McDermott, PRWC Chairman, sign a grant contract with the State of CT.

Thank you to our generous newsletter sponsor!



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WATERSHED NEWS

Finding ways to keep our water pure and plentiful

Serving the Community Since 1999

Fall / Winter 2016-17

Teaching the Next Generation of Watershed Stewards

Science has long been at PRWC's core, but education is our hallmark. This October, we continued our legacy of teaching the next generation of stewards how to care for our shared water resources with two very special programs.



(LEFT) Mr. Nate and his fourth grade students from the Children's Community School of Waterbury searched for signs of animal life in and around the Woodbury Reservoir during an October field trip with PRWC. (RIGHT) Carol Haskins leads the Long Island Sound in a Jar activity to help Woodbury's seventh graders learn about sources of pollution that can affect Connecticut's water resources.

First, PRWC facilitated a field trip to the Woodbury Reservoir for third through fifth grade students from the Children's Community School of Waterbury. The trip was organized in partnership with the After School Arts Program (ASAP!) as one component of Metamorphosis, a school-based experiential learning program. During the field trip, students learned how limited and precious our freshwater resources are while visiting the site of the former water supply for Woodbury and rotating through three activity stations. The activities -- Awesome Aquifers, Animal Signs Scavenger Hunt, and Tie-Dying -- emphasized how plants, animals, and people all rely on water to survive and thrive. This learning was further integrated through other activities lead by an artist serving a two-week long residency at the school as part of ASAP's Metamorphosis program.

A few weeks later, PRWC was one of five guest speakers who facilitated hands-on activities for Woodbury Middle School's seventh grade students as part of the school's annual Make a Splash Day. Carol Haskins, Outreach Director, lead the Long Island Sound in a Jar activity which teaches students about different sources of pollution that can affect Connecticut's water resources. Students also learned about water monitoring, human health and water borne pathogens, rain gardens, and pollution prevention as they cycled through the different activities. The concepts students learn during Make a Splash Day are revisited frequently as they continue with their watershed studies in science class. Concepts are further reinforced later in the year with a unit on erosion.

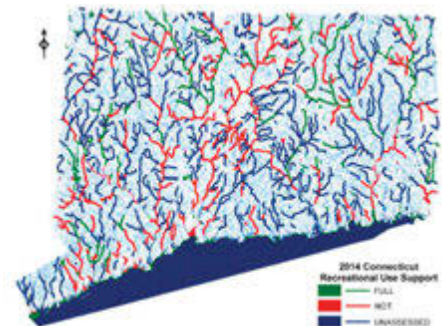
Updating the Pomperaug Watershed Management Plan

Earlier this year, PRWC signed a grant contract with the State of Connecticut's Department of Energy and Environmental Protection that awarded PRWC with a grant to be used to update its Watershed Management Plan (WMP). We also received a matching grant from the Connecticut Community Foundation.

In September, we hired the consulting firm of Fuss & O'Neill to help us create a Plan that will develop site specific plans for remediating stream pollutants like bacteria and restoring instream habitat.

This update of the Pomperaug Watershed Management Plan is being driven by a couple of factors: (1) timing - it has been 10 years since the plan was last updated; (2) format - the U.S. Environmental Protection Agency has adopted a prescribed format for these plans and organizations must have an approved plan to be eligible for *(continued on Page 4)*

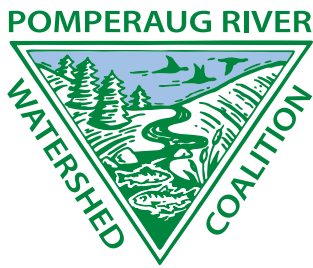
Connecticut Waterbodies Assessed for Recreational Use



Stream segments shown in red do not meet water quality standards to support recreational activities like swimming.

Image Source: CT DEEP's 2014 Intergrated Water Quality Report to Congress.

Visit our News & Blog at WWW.POMPERAUG.ORG for expanded articles, additional photos, and to learn more about our past, current, and upcoming activities!



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Phone: 203-263-0076
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 Website: www.pomperaug.org
 Social Media:   

PRWC STAFF

Executive Director
Len DeJong
 Outreach Director
Carol Haskins
 Manager of Admin. & Development
Anne Urkawich

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The Pomperaug Watershed



Stream Monitoring Efforts Continue

While facing extremely dry conditions this fall, volunteers were able to get out to survey the macroinvertebrate populations in our small rivers and streams that still had some water. We found that the sites with low flow conditions (versus no flow) were still supporting creatures like mayflies, stoneflies, crayfish, and aquatic worms.

However, these “bugs” were especially tiny this year and we had to dig a little deeper under the rocks in the wettest portion of the channel to find them taking refuge. The types of creatures we found indicated high quality water, essential to supporting aquatic life. Streams surveyed this season were Sprain Brook, East Spring Brook and Weekepeemee River. At the first two sites (and eight others), we also collected hourly stream temperature data for the entire summer season (June through October). We’ve submitted these data to CT DEEP in support of their statewide monitoring efforts. Later this winter, PRWC will summarize the data and compare it to data recorded since 2012. Among our goals for these efforts is to establish a baseline of data we can use to begin looking for trends while also trying to identify critical cold water habitat that can support native brook trout. Of the ten sites we currently monitor, one is considered “cold” while the others are “cool” or “transitioning.” To learn more, visit the “Science” section of our website.



Volunteers Tracy Frate and Jonathan Goldberg survey for macroinvertebrates in Sprain Brook off Papermill Road in Woodbury.

Board Changes: New Faces and Fond Farewells

At our Annual Meeting in September, PRWC elected Frank Sherer, Jr. of Woodbury and Dan Slywka of Southbury to the Board of Directors.

Vince McDermott, PRWC Board Chairman, emphasized that “in electing Frank and Dan to the Board of Directors we are welcoming individuals with the highest credentials and a demonstrated commitment to sharing their respective skill sets to strengthen their communities through volunteer support.” He went on to say that “PRWC will benefit immensely from their proven professional and leadership capabilities. Both Frank and Dan are strong additions to the PRWC team and will complement our work of using science, research and educational outreach to promote the protection of our water resources.” Learn more about Frank and Dan by reading their biographies found in the “News/Blog” section of our website.



Welcome new Board Members Dan Slywka and Frank Sherer, Jr.

During the Annual Meeting the Board of Directors also re-elected Dr. Marianne Bette (Southbury) and Chris Wood (Woodbury) to serve new terms on the Board. The Board elected its slate of officers including Vince McDermott (Bethlehem) as chairman, Joe Eisenberg (Woodbury) and Gail McTaggart (Southbury) as co-vice chairs and John Lacadie (Woodbury) as secretary/ treasurer.

The Board of Directors also recognized outgoing members Virginia Mason and Fred Sell for their significant contributions to the Board and for their many years of volunteer service and environmental stewardship dedicated to the protection of the Pomperaug River water resources.



Our gratitude to exiting Board Members Fred Sell and Virginia Mason.



Recent local drought conditions, like those seen on the Weekepeemee in 2015, have been highlighted in developing the State Water Plan. This Plan aims to balance the needs of public water supply, economic development, recreation and ecological health, and to provide a framework for improved or more efficient water management in the future.

Our State Water Plan

In earlier communications we noted that PRWC has been a local “voice at the table” in matters pertaining to the development of Connecticut’s first State Water Plan. The Plan is being prepared in two phases. Phase I will soon be completed and includes an assessment of current conditions and practices along with prioritizing future planning issues. Phase II of the Plan will develop consensus-based policy recommendations where possible, identify pathways to address unresolved planning needs, and formulate a decision framework for solving existing and future water issues.

As a member of the Water Planning Council Advisory Group and the Science & Technical Committee, PRWC has highlighted and provided data on water issues of importance to us such as streamflow, groundwater withdrawals, and drought. Public Act 14-163 charged the CT Water Planning Council with delivering a completed State Water Plan to the General Assembly by January 1, 2018. Since this is our State Water Plan, your assistance with the development of the Plan is also encouraged through public meeting participation or by submitting written comments. To learn more please visit www.ct.gov/water or contact us.

Sharing Our Expertise Across the Region

As you know, our mission is to ensure the availability of high quality water in the Pomperaug Watershed communities through the use of science and education. But, did you know we are also committed to sharing our knowledge and expertise with others outside the watershed who are also committed to protecting water resources for future generations?



Len DeJong discusses drought planning and the State Water Plan process with an audience in Southbury.

This fall, PRWC made great efforts to share our scientific research and outreach programs across the region. Len DeJong shared the results of a Pomperaug Watershed focused USGS study that investigated impacts of climate change on watersheds across the country. This presentation was made at a Climate Change Conference presented by Rivers Alliance of Connecticut in October. Attending the conference were municipal and state officials who make important decisions regarding our natural resources. DeJong gave a similar presentation with additional emphasis on the State Water Plan and drought planning to the Southbury Business Association as well as to employees at Timex Group in Middlebury.

Carol Haskins shared PRWC’s expertise in community outreach by showcasing the River Smart program materials available to municipalities to use in meeting State Stormwater Permit requirements at a topical conference hosted by the Connecticut Council of Small Towns in October. She also presented on what it means to be River Smart at the Western Connecticut Leadership Program’s Environment Day in September.

In a typical year PRWC conducts an average of 55 outreach programs and presentations reaching upwards of 150,000 people with water conservation and environmental stewardship messages.

Steering Committee Volunteers Sought for Woodbury Earth Day 2017

Mark your calendars - Woodbury Earth Day has been scheduled for Saturday April 22, 2017 at Hollow Park!

While planning is already underway, we need YOUR help to make this the best event yet!

Steering Committee volunteers are needed to help plan and organize the following aspects of Connecticut’s largest Earth Day celebration: Vendor Registration; Event Promotion; Music/Sound Coordination; Arts & Crafts; Site Logistics; Special Activities & Presentations.

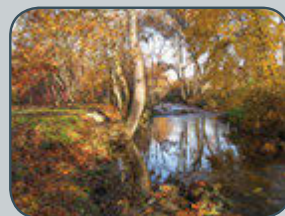
Please email us at earthday@pomperaug.org or call 203-263-0076 if you are interested in volunteering. For additional information, including, forthcoming vendor applications and sponsorship forms, please visit www.woodburyearthday.org.



Photo credit: GGDavis.com

Help Us Safeguard Water Resources for Generations

Communities need clean water to be vibrant, healthy and sustainable. Pomperaug River Watershed Coalition is working on your behalf and those you care about, to ensure continued access to clean water. *We cannot do this critically important work without you.*



We rely on support from people just like you to do the work we do. By making a tax-deductible donation today, you help safeguard our vital water resources for generations.

Donate online at www.pomperaug.org.



Pomperaug River Watershed Coalition

39 Sherman Hill Road, C103

Woodbury, CT 06798

Email: info@pomperaug.org

Donor Recognition List Inside!



(TOP) Kyle and Sarah Turoczi of Earth Tones replant the riparian buffer along the Pomperaug River with native species after removing invasive plants. (BOTTOM) One of the new access points to the river at Cedarland Park on River Trail in Southbury.

Riparian Buffer and River Access Project Completed

Since 2012, volunteers have been hard at work restoring the riparian buffer at Cedarland Park in Southbury. What began as an effort to remove invasive species and replant native species along the small stream that flows through the neighborhood park on River Trail expanded to a larger effort to do the same along the banks of the Pomperaug River. The buffer along the Pomperaug also included plans to install natural stone stairs down to the river at two points heavily eroded by past foot traffic to the water. In August, this vision became a reality! And, not without the support of many community partners. We wish to extend our thanks to ALL the volunteers who helped pull weeds and plant native species over the past four seasons; Earth Tones Native Plant Nursery and Landscaping for site designs, plant material, and labor; Civil 1 for engineering review and support through the permitting process; O&G Industries for donating round rubble for the access areas; Haynes Materials for donating large stone slabs for the steps; FirstLight Power for donating plants; CT DEEP and Patagonia Westport for grant funding support; the Town of Southbury for allowing us to create a model site for best river practices at one of their parks and having their Public Works crew provide weed disposal support throughout the project.

With all said and done (minus the continued weeding and occasional watering), we restored 270 feet of riparian buffer habitat along the Pomperaug River and another 100 feet along Spring Brook. The native buffer brings a great number of benefits including food and shelter for birds, pollinators, and other small creatures; shade over the river to help keep the water cool for fish; a soft, green barrier to absorb stormwater runoff flowing towards the river; and a maze of roots that helps keep the riverbank intact during floods.

If you haven't already checked out our work at Cedarland Park, we encourage you to do so. And, you might want to bring a fishing pole if you visit in the spring. This is afterall, a trophy trout section of the river stocked by the State!

Watershed Management Plan *(continued from Page 1)*

future restoration project funding; and, (3) new areas of concern - a greater number of monitoring locations since the time of the last WMP has revealed new sites where data do not meet federal water quality standards.

We are compiling the existing information and conducting field assessment surveys to better gauge the scope of factors that may be contributing to reduced water quality conditions. Stakeholder input will also be sought throughout the planning process. Please stay tuned for announcements about presentations of this information in your town and the opportunity to share your input on issues we may have missed.

Thank you to our generous newsletter sponsor!



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WATERSHED NEWS

Finding ways to keep our water pure and plentiful

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Spring-Summer 2017

Employing Area Young People to Aide Conservation Projects

Building on the past successes of stormdrain marker installations, invasive plant removal, and streambank stabilization, the Pomperaug River Watershed Coalition is launching a Youth Conservation Corps pilot-program this summer thanks to generous grant support from the Connecticut Community Foundation. PRWC plans to hire a small crew of high school students that work together with a crew leader over the course of six weeks to implement conservation projects throughout the watershed. Projects will include activities such as maintaining trails and bridges in parks, constructing rain gardens, improving riparian habitat, removing invasive species, mitigating soil erosion, and more.



The Youth Conservation Corps will provide employment opportunities for area students to gain conservation experience and knowledge while working outdoors on meaningful conservation projects. “Our goal of this new program is to foster a sense of responsibility for natural resources, civic engagement and a life-long connection to the environment in our next generation of stewards,” said Carol Haskins, PRWC Outreach Director.

Haskins explained that while projects are not fully firmed up, PRWC has been in discussion with its municipal partners from Woodbury, Southbury, and Bethlehem about potential worksites including Cedarland Park, Bennett Park, and Settlers’ Park in Southbury; Strongtown Preserve, Woodbury Reservoir, and Hollow Park in Woodbury, and Swendson Farm in Bethlehem.

In addition to launching the Youth Conservation Corps, PRWC is looking forward to welcoming its fourth summer intern that will be selected for the prestigious Dr. Marc Taylor Internship position. The intern is an essential staff person supporting PRWC’s science and outreach initiatives.

Together, projects worked on by the Youth Conservation Corps and the Dr. Marc Taylor Intern will underscore our roles as stewards of our environment and promote good habits to keep our watershed and rivers healthy. For more information or an application for employment, contact us at 203-263-0076 or outreach@pomperaug.org.

State Water Planning Update

Significant effort by numerous stakeholders continues on two statewide planning efforts important to the protection of local water resources. Under the leadership of the Connecticut Water Planning Council (WPC), the effort to develop Connecticut’s first comprehensive State Water Plan has successfully advanced as the July 2017 delivery of a draft Plan draws near. As previously reported PRWC has been an active “voice at the table” throughout the Plan development. The goal of our efforts is to effect meaningful change in the way water resources are both looked at and planned for in the future to re-balance the many competing and critical needs for water. We, along with other participants, have shared local knowledge, ideas, and concerns, and contributed to science and technology as well as policy aspects of the Plan. One example of participant contributions is that “estimated ecological flows” required to maintain the aquatic health of rivers statewide are now included as data points within the Plan to be used for future water resource management planning. As the planning process continues, we encourage your participation in public meetings and informational sessions like the two recently held in Southbury. *(continued on page 2)*

GIVE LOCAL

Greater Waterbury and Litchfield Hills

April 25-26, 2017
Connecticut Community Foundation
www.GiveLocalCCF.org

Give Local: Support the Next Generation of Environmental Stewards

Make your dollars go further! An anonymous donor has pledged to **match every dollar given to PRWC through Give Local (April 25 & 26) up to \$10,000**. This match is a great opportunity to do more than twice the good with one donation. Your gift of \$25 becomes \$50, and, thanks to Connecticut Community Foundation, your gift is boosted even more with event bonus funds and prizes. Please, don’t let this generous matching opportunity float away. Visit www.pomperaug.org/givelocal for more information.



CONTACT INFORMATION

Phone: 203-263-0076
 Email: info@pomperaug.org
 Website: www.pomperaug.org
 Social Media:   

PRWC STAFF

Executive Director
Len DeJong
 Outreach Director
Carol Haskins
 Manager of Admin. & Development
Anne Urkawich

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The Pomperaug Watershed



Water Education & Conservation Challenge for Third Graders

Earlier this year, PRWC was brought on by Connecticut Water Company (CWC) to help develop a Water Conservation Education Program for third grade classes for schools served by CWC. Schools served by Connecticut Water are currently being invited to participate in the program for the 2017-18 school year.

PRWC has developed educational programs for schools that are consistent with the state curriculum requirements using lesson plans from Project WET (“Water Education for Teachers” curriculum manual) which can supplement classroom teaching.

CWC employees will visit schools that sign-up for the Conservation Education program to teach students about the water cycle and water conservation through hands-on activities. The goal is to help students understand how limited and precious freshwater is on our planet and why we collectively need to protect it and use it wisely. As part of the program, students will be encouraged to sign a Water Conservation Pledge to conserve water at home. The classes with the highest percentage of returned pledges will be eligible to enter into a drawing to win a free trip to the CT Science Center.

This summer, PRWC will train CWC staff in how to lead the classroom activities.

Stream Surveys Soon Underway

This spring, field technicians from Fuss & O’Neill, the consulting firm we hired to assist us in revising our Watershed Mangement Plan, will be conducting visual assessment surveys along impaired stream segments of the Pomperaug and Weekepeemee Rivers. Surveys data will help us better gauge the scope of factors that may be contributing to reduced water quality conditions of these waterways. The findings will be used to develop site specific plans for remediating pollutants like bacteria and for restoring instream habitat. These plans will then be incorporated into the updated Watershed Mangement Plan. Learn more about this effort and opportunities for community input at www.pomperaug.org.



State Water Planning (continued from page 1)

We also encourage your public comments and ask for your support of the State Water Plan. To learn more please visit www.ct.gov/water.

PRWC has also been engaged in a second significant water resource planning effort that is underway, which is the delineation of Exclusive Service Areas (ESAs) for the provision of public water supply throughout the State. ESA designations are an important planning component of the Water Utility Coordinating Committee (WUCC) work as overseen by the Connecticut Department of Public Health. ESAs can provide for an orderly plan to assure that public health related to water supply is properly accounted for. However, there is also a risk associated with how much water is drawn from a water source to supply future ESAs. As this issue continues to be debated, PRWC is working with state and local officials to understand the potential adverse impacts. Proposed ESAs for the are area have been reviewed and adopted by the Western WUCC membership and are now out for public comment. To learn more please visit www.ct.gov/dph/wucc.

Celebrate Trails Day Weekend with PRWC

Connecticut Trails Day Weekend will be here soon and, in celebration, the Pomperaug River Watershed Coalition will lead an outing to Nonnewaug Falls on Sunday June 4 at 12:30 PM.

Join PRWC for a leisurely paced nature walk along the edge of a farm field, up a moderate hill, over uneven terrain and into a well-wooded area that surrounds the beautiful and culturally significant waterfalls.

Participants are invited to bring their own lunch to eat at the edge of the falls while learning about the historical and modern day importance of this site. Highlights include discussion about the native tribe after which the Nonnewaug River is named. Guests will learn about the role the Nonnewaug River has in supplying a portion of the community with their drinking water as well as supporting the downstream flows of the Pomperaug River. Points of interest on the hike include the large oak “Treaty Trees” (c. 1700) and the plaque dedicated to Cheif Nonnewaug.

Participants should bring lunch, water, wear sturdy shoes, be prepared for nuisance bugs and be aware of slippery surfaces and steep slopes near the falls. Participants are encouraged to pre-register by calling 203-263-0076 or emailing outreach@pomperaug.org. Due to limited parking at the trail head, participants should plan to meet in the parking lot of the Woodbury Senior Center located at 281 Main Street South.

This hike will mark the first in a series of hikes slated for this summer as part of a new “River Ramblers” program where we will invite the community to join us in exploring a variety of trails near our rivers and streams. Visit our website for announcements regarding dates and locations.



NEW! Statewide River Data Now Available Through Online Interactive Maps



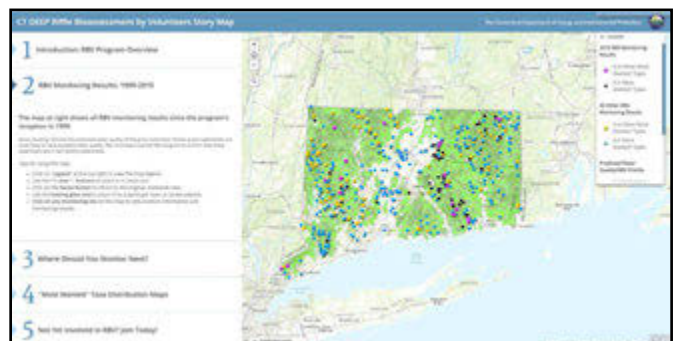
Macroinvertebrate Survey Results

We realize most people are not very big fans of river bugs, but we are! They can tell us a lot about water quality. That’s why PRWC participates in Connecticut Department of Energy and Environmental Protection’s Riffle Bioassessment by Volunteers program (aka Macroinvertebrate Survey Program) every fall. While we usually share results from our fall survey results with readers this time of year, we are instead going to direct you to a really cool online story map put together by CT DEEP where you can explore the results for yourself.

The story map is actually an interactive website that includes information and maps such as an RBV Program Overview; statewide volunteer monitoring results dating from 1999 through 2016; distribution maps of the “most wanted” taxa (aka “good bugs”); site photos; a list of current coordinators and participating organizations; and much more! Check it out today! <https://tinyurl.com/RBVStoryMap>

Fish Community Data

Ever wonder what types of fish live in our local rivers and streams? Or wonder how the fish community might be changing over time? Well, thanks to a really great effort between CT DEEP and UCONN’s Center for Land Use Education and Research, you can now access fish community survey data statewide! Using the online interactive map hosted on the Connecticut Environmental Conditions Online (CT ECO) portal, you are able to find out where CT DEEP collects its samples and what types of fish were observed each time they visited the site. There are several locations with the Pomperaug Watershed including ones on the Pomperaug, Nonnewaug, and Weekepeemee Rivers as well as smaller tributaries like Sprain Brook, Wood Creek, Lewis Atwood Brook, and Bullet Hill Brook. Check it out! <http://cteco-web1.grove.ad.uconn.edu/projects/fish/index.htm>





Pomperaug River Watershed Coalition

39 Sherman Hill Road, C103

Woodbury, CT 06798

Email: info@pomperaug.org

Connecticut's Largest Earth Day Festival!

Presented by: Pomperaug River Watershed Coalition

WOODBURY EARTH DAY FESTIVAL

Over 100 Vendors and Exhibitors • Live Music
Food Trucks • Earth-Friendly Activities
Raffle • Crafts • Fun for All Ages!

Saturday April 22

11 am - 4 pm

Hollow Park, Woodbury

Free Admission/Parking • Rain or Shine!

www.woodburyearthday.org

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Kristen Graves • The Wool Hats String Band
Maia Dobbs • The Dr. Steve Band
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Arts & Crafts Tent by The Golden Button
Various Nature Walks along the Pomperaug River

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WATERSHED NEWS

Finding ways to keep our water pure and plentiful

Serving the Community Since 1999

Fall/Winter 2017-18

State Water Plan Update

At the end of June, the Final Draft of a comprehensive State Water Plan (SWP) was released for a 120-day public comment period ending November 20.

Along with numerous other key stakeholders, PRWC has been an active voice at the table in the planning for the SWP. Our engagement has been as members of both the Water Planning Council Advisory Group and the SWP Science & Technical Committee. That committee was charged with assisting with the science behind the SWP. Our goal had been to export local watershed knowledge into the SWP with the desired outcome being that the SWP would provide for the assembly of critical water resource data and meaningful policies and pathways to balance the competing needs for our water resources. *We believe that the SWP overall meets this goal.* It was an honor for us to have participated in the development of the SWP while working alongside so many talented individuals. We applaud the State Water Planning Council for its leadership in developing the SWP.

You can locate a copy of the Final Draft of the SWP at the following link: www.ct.gov/water. Although it is a very large document, we encourage you to review as much of the material as you have the time for while underscoring that the executive summary will give you a good understanding of the SWP. The link above also provides you with an opportunity to review comments on the SWP as provided by PRWC and others.

Once revised to reflect the outcome of public comment, the SWP is scheduled to be submitted to the Connecticut General Assembly by January 1, 2018 where the Joint Standing Committees on Environment, Public Health, Planning & Development and Energy & Technology may conduct a joint public hearing on the SWP. Changes may then be requested before it returns to the General Assembly for proposed adoption. PRWC looks forward to approval of the SWP and future participation in its implementation.

Successful Launch of Youth Conservation Corps



Thanks to generous environmental grant support from the Connecticut Community Foundation and other supporters, we successfully piloted a Youth Conservation Corps program this summer. We were able to further on-the-ground conservation efforts by hiring a team of local high school students to work on projects throughout the watershed. *See page 2 for more photos of the team in action and to read about their accomplishments.*

Watershed Based Planning Continues

Late this summer, field scientists from the consulting firm Fuss & O'Neill traveled throughout the watershed to conduct Visual Assessment Surveys of select rivers and streams on behalf of PRWC. This work is part of a larger effort led by PRWC to update and upgrade its Watershed Based Plan, a project funded in part by Connecticut Department of Energy and Environmental Protection through a United States Environmental Protection Agency Clean Water Act Section 319 Nonpoint Source Grant and the Connecticut Community Foundation.

To best inform this Plan, current watershed conditions have been evaluated through the use of GIS mapping, bacteria and nutrient load potential has been estimated through computer modeling, and visual assessment survey data has been collected. The visual surveys have provided a general assessment of in-stream habitat, streambank, riparian buffer, and floodplain conditions; evaluated the potential for stormwater runoff to deliver soil, nutrients, and bacteria from the landscape to nearby waterways; and identified opportunities to implement green infrastructure to reduce stormwater runoff.

In regards to how the data will be used, Erik Mas, Project Manager and Vice President at Fuss & O'Neill said, "These data will help us better gauge the factors that may be contributing to reduced water quality conditions, and will allow us to develop site specific plans where measures can be implemented to minimize bacteria, nutrient and soil inputs into the Pomperaug River and its tributaries as well as to restore in-stream habitat."

Findings and recommendations will be shared during informational sessions slated to be held in Bethlehem, Southbury, and Woodbury early this winter. At that time, PRWC will seek community input to help refine the Plan which will serve as a road map for state and local agencies to implement protection and restorative measures to further protect and enhance local water resources. The final Plan is expected in late winter.



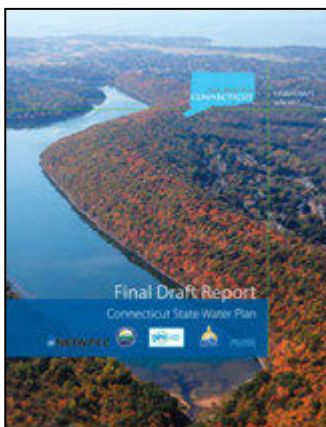
Current land cover map for the Pomperaug Watershed.

Science, Stewardship, & Restoration



In the 2017 field season, PRWC's volunteers and staff surveyed macroinvertebrates at stream locations throughout the watershed as part of a statewide effort to document high quality streams - three of the sites are new this year and preliminary results show they will be ranked high. The team also deployed data loggers to record summer stream temperatures in an effort to document cold water habitat as well as thermally stressed areas. This year also marked the launch of the Youth Conservation Corps (YCC) program working throughout the watershed. Over the course of six weeks, the 5-member YCC crew diligently cleared more than a half acre of land area of invasive plants using only hand pulling methods and removed approximately 175 forty-five gallon bags (or 40 cubic yards) of invasive plant material from eight different work sites. In the process, the team learned how to identify 70 species of plants (native and invasive). The crew installed 380 stormdrain markers along 40 roads in Woodbury and Southbury, and they assembled and painted one rain barrel that was sold at the annual benefit in September. These activities were intended to help abate stormwater runoff and to improve riparian buffer habitat as well as stream water quality and to raise awareness among residents about where stormwater goes.

Water Resource Planning & Coalition Building



This year, PRWC has served as a technical resource and key leader in a number of water resource planning efforts on both the state and local level. These efforts include the development of Connecticut's first ever State Water Plan, an update/upgrade to the Pomperaug Watershed Based Plan to address factors potentially contributing to streams with known impairments; and facilitating discussions between municipal and utility representatives to establish drought and water conservation triggers to alleviate in-stream habitat stressors during times of low streamflow. Essential to each of these efforts has been PRWC's collection of scientific data and our ability to apply our research in partnership with stakeholders.

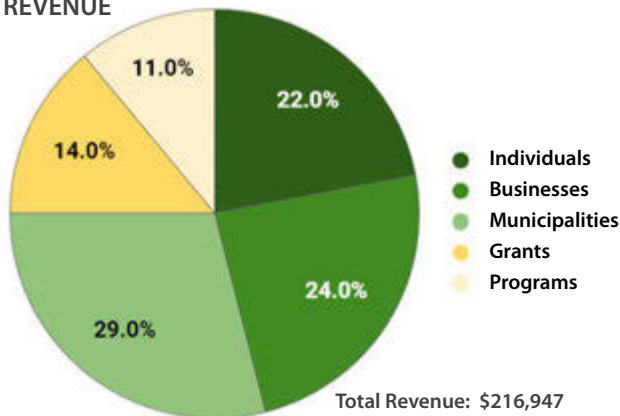
Outreach & Education



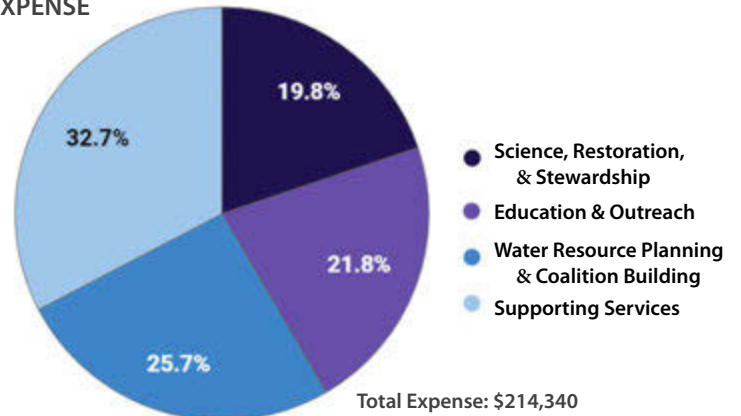
Outreach and education programs have been strong over the past year! Highlights include: hosting Woodbury Earth Day with support from the town, an event that drew in 6000+ visitors; launching River Ramblers, a guided hike/walk series that kicked off during Connecticut Trails Day Weekend in June and that will continue next year; developing a water conservation education program in partnership with Connecticut Water Company, which they are teaching in schools in their 55 town service-area; leading hands-on water conservation activities at Woodbury's Parks & Recreation Summer Camp; facilitating a field trip to the Trolley Bed Preserve in collaboration with the After School Arts Program for third, fourth, and fifth grade students from the Children's Community School of Waterbury; introducing participants of the Western Connecticut Leadership Program to the charismatic creatures (fish and bugs) that reside in and rely on the Pomperaug; and raising community awareness about the watershed as an exhibitor at events like Woodbury Fall Festival, the Southbury Farmers' Market, Make a Splash Day at Woodbury Middle School, and so much more!

Fiscal Year 2017 Financial Summary

REVENUE



EXPENSE



The charts above summarize our revenue and expenses for the fiscal year ending June 30, 2017. Each revenue category is critical to the balance for the overall funding required for us to be successful in our mission. The expense summary shows how we utilize that funding support for our core areas of work. **You'll see that your financial support truly makes a difference and comes with our heartfelt appreciation!**



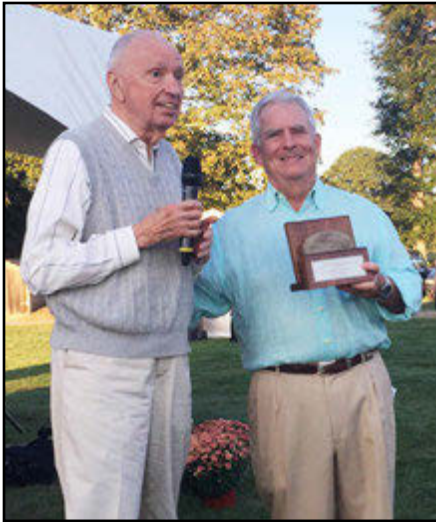
Pomperaug River Watershed Coalition

39 Sherman Hill Road, C103

Woodbury, CT 06798

www.pomperaug.org

*FY 2017 Financial Summary &
Donor Recognition List Inside!*



Dick Leavenworth Honored Recipient of the Dr. Marc J. Taylor Environmental Stewardship Award

At the end of September, PRWC held its annual benefit, JAZZ at the Lake, at Tranquillity Farm in Middlebury. Thanks to the support and dedication of many volunteers and donors, the generosity of our hosts Scott and Jean Peterson, our remarkable honorary chair Faith Middleton and our talented auctioneer Rick Richardson, some 240 supporters enjoyed a wonderful event.

During the celebration, Frederick "Dick" Leavenworth, of Woodbury, was presented with The Dr. Marc J. Taylor Environmental Stewardship Award. Dick was recognized as a tireless leader and advocate for protecting and enhancing the natural systems that make this corner of the world a special place. He has provided not only the Town of Woodbury but also northwest Connecticut with decades of conservation leadership that has effected meaningful protection and progress in the preservation of natural systems. *(Read more about Dick's achievements in the News section of our website.)*

In presenting the award, Vince McDermott, PRWC Board Chairman, remarked: "It is an honor for me to present Dick Leavenworth with the 2017 Dr. Marc J. Taylor Environmental Stewardship Award. The importance of his leadership and his conservation work cannot be overstated. He is a genuine man, highly regarded as a visionary and protectorate of all that surrounds us and one that we are all grateful to call a friend."

In accepting the award Dick spoke of the importance of everyone's actions toward environmental protection and stewardship. He emphasized the significance of Marc Taylor's ability to passionately fight for water resource and land protection as well as the need to prepare the next generation of environmental stewards. Dick spoke of his honor in receiving the award and to having joined a distinguished group of past recipients who include Margaret Minor of Rivers Alliance of Connecticut and Tom Crider of the Southbury Land Trust.



POMPERAUG RIVER



CONTACT INFORMATION

Phone: 203-263-0076

Email: info@pomperaug.org

Website: www.pomperaug.org

PRWC STAFF

Len DeJong, Executive Director

Carol Haskins, Outreach Director

Anne Urkawich, Mng. Admin. & Devel.

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Youth Conservation Corps Program Continues Another Season



Josephine Purdy (left), 2017 Dr. Marc Taylor Intern, worked together with the YCC crew to remove invasive plants growing along the banks of the Pomperaug River at a site in Woodbury.

Thanks to generous grant support from the Connecticut Community Foundation (CCF), the Pomperaug River Watershed Coalition (PRWC) will again hire high school students this summer to serve on the Youth Conservation Corps. The Youth Conservation Corps provides employment opportunities for area students to gain experience and knowledge while working outdoors on meaningful conservation projects throughout the watershed. Projects will include activities such as maintaining local trails, constructing rain gardens, improving riparian habitat, removing invasive species, mitigating soil erosion, and more.

Josh Carey, Director of Grants Management at CCF, noted, “the Youth Conservation Corps leverages the talent and energy of our young residents to create real environmental impacts in our communities. This program will also help the next generation to develop critical leadership skills as they educate the broader public about effective ways to protect our natural resources. The Foundation is happy to support PRWC in offering these innovative opportunities for civic engagement and environmental stewardship.” *(continued page 2)*

Pollutant Load Modeling Completed for the Watershed

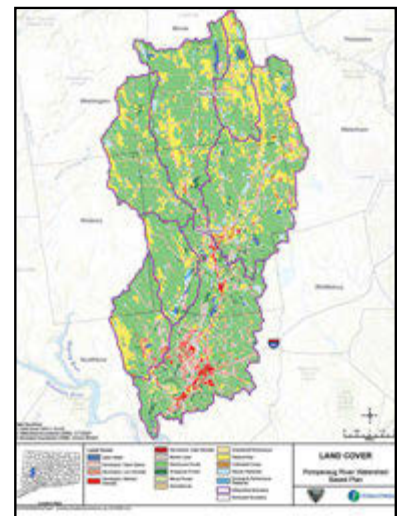
Over the past several months, PRWC has been working with Fuss & O’Neill, an environmental consulting firm, to update the Pomperaug Watershed Management Plan to a 9-element Watershed Based Plan for approval by the U.S. Environmental Protection Agency (EPA).

The focus of our Watershed Based Plan is to reduce the amount of bacteria entering the local streams which are listed as impaired by CT Department of Energy and Environmental Protection and EPA. There are three stream segments in the Pomperaug Basin where in-stream bacteria levels were measured in excess of the water quality standard for recreation. While the data supporting these listings have been limited, further evaluation is still required to remove these streams from the State’s list of impaired waters.

A key milestone in developing plans to reduce bacterial level was to estimate the potential volume of it that could be carried from the watershed lands into our rivers and streams. We used a pollutant loading model to make such an estimate. The model also provided us with estimates for other pollutants including nutrients like nitrogen and phosphorus as well as total suspended solids (a factor of soil erosion). The model used the most recent land cover data, precipitation data, soil data, and more to estimate the relative sources of these pollutants and their potential volumes that could enter our streams.

PRWC’s Land Use Committee will be using this information to determine what practices can be implemented to reduce the pollutant loads and where they may most effectively be implemented to improve in-stream water quality.

We encourage you to review the findings of the pollutant loading model and to attend one of the upcoming information sessions (to be scheduled) to learn more about the model results and next steps in developing and implementing the updated Watershed Based Plan.



Most recent land use map for the Pomperaug Watershed.



CONTACT INFORMATION

Phone: 203-263-0076
 Email: info@pomperaug.org
 Website: www.pomperaug.org

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THE POMPERAUG WATERSHED



A MESSAGE FROM THE EXECUTIVE DIRECTOR

Going Fishin' and So Much More!

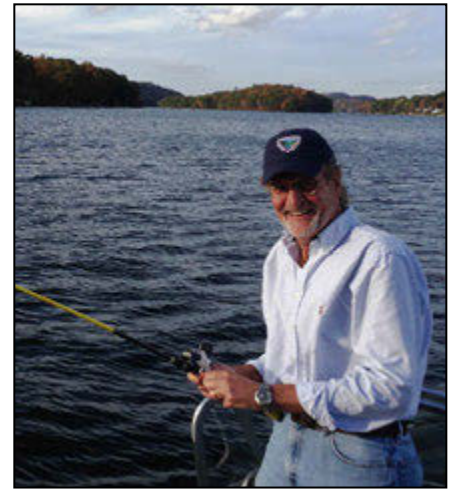
I suspect that I'm not alone in bidding farewell to the March Nor'easters and welcoming the warmth of springtime and all that our beautiful Pomperaug watershed affords us. Shortly the fishing equipment will appear at my home as "opening day" arrives. So too, I'll locate my walking stick as I venture out with family and friends on hiking trails through spectacular lands dotting the watershed. These lands have been preserved as open space and stream protection buffers by our municipal and conservation partners. I'll locate a spot to reflect along the water's edge by some of the most well cared for and highest quality rivers and streams in Connecticut. I'll bring along and enjoy water from my public water supply tap knowing the critical importance that river protection stewardship has on the groundwater below and the water we drink. And there is so much more...

At PRWC we strive to be true to our mission to use sound science and educational outreach for the protection of our local water resources. Our nearly two year collaborative effort in regard to State-wide water resource planning along with our local focus toward an EPA-approved watershed based plan are but two examples of how we have recently and effectively used science. On April 21, in partnership with the Town, as part of our educational outreach we'll again host Woodbury Earth Day, the largest celebration of its kind in the State. And shortly, our Dr. Marc Taylor Internship and Youth Conservation Corps programs will be kicking off. And there is so much more...

As a coalition-based organization none of our accomplishments happen without our volunteers, community partners, sponsors and donors. For that support I am sincerely appreciative. I hope that you agree that our work toward the protection of our water resources is the best way we can thank you. I invite you to visit our website or give us a call. Please do find that fishing pole or walking stick and enjoy the beauty of our watershed. There is truly so much more...

Gratefully,

LEN



Youth Corps (continued from page 1)

Over the course of their six-week employment, students will work under the leadership of the Dr. Marc Taylor Intern on initiatives that achieve local conservation goals and promote the protection, restoration and remediation of water resources. This year's project sites include Audubon Bent of River, Flanders Nature Center & Land Trust, Roxbury Land Trust, the Southbury Land Trust, and a couple of local town parks. Together, our team will be underscoring our collective roles as stewards of our environment and promote good habits to keep our watershed and rivers healthy.

For more information or an application for employment, visit www.pomperaug.org/employment. Applications for Youth Conservation Corps crew member positions for this season will be accepted through April 22, 2018.





Rain Garden Installation Planned for Community House Park

Thanks to the diligent planning of our past interns, we are looking forward to installing a rain garden at Community House Park in Southbury this summer!

The rain garden will help absorb and filter stormwater runoff flowing from the former basketball court, the bathhouse, and a driveway before flowing into a tributary to Bullet Hill Brook. Last fall, approvals for the rain garden were received from Southbury Parks & Recreation and the Public Works Department as they oversee management of the town owned property. Funding for the project has been made possible through a Watershed Assistance Small Grants Program grant administered by Rivers Alliance of Connecticut. Stay tuned to learn more about opportunities to volunteer on this and other conservation projects this summer.



Rain Barrel Workshop

Join Pomperaug River Watershed Coalition under the Pavilion at Hollow Park during Woodbury Earth Day and Make Your Own Rain Barrel

Saturday April 21, 2018

Workshop 1 - 11:30 AM
Workshop 2 - 1:00 PM
Workshop 3 - 2:30 PM

Cost: \$40 per barrel
(55-gallon barrel & conversion kit included)



Materials donated by:
River Network and Coca Cola

*Registration is limited to 1 barrel per household & 10 households per workshop. Pre-registration and payment is REQUIRED. Participants MUST be prepared to bring their rain barrel home with them from the event.



CT Trails Day Weekend!
June 2-3, 2018
www.ctwoodlands.org



Join us for a walk around Transylvania Pond!

Guided Nature Water at Janie Pierce Park Saturday, June 2, 2:00pm - 4:30pm

Kicking off this year's River Ramblers series with PRWC is a relatively flat walk around Transylvania Pond, which straddles the Southbury/Woodbury town line. Transylvania Pond is the headwater of Hesseky Brook, which flows north into a lush wetland that hosts numerous bird, mammal, reptile and amphibian species. Participants will learn about the history of the park, local flora and fauna, current issues surrounding the pond, and what steps we can all take to be good river stewards. Please dress for outside, wear sturdy shoes, bring water and snacks, and be prepared for nuisance bugs. Participants should meet in the parking lot at Janie Pierce Park located on Transylvania Road a few minutes before 2pm for check-in. For a listing of all 2018 Connecticut Trails Day Events, visit www.ctwoodlands.org

Support PRWC during GiveLocal

This year, your gift to Pomperaug River Watershed Coalition during Give Local online giving campaign will do more than twice the good. A **generous donor just pledged to match all donations to PRWC through Give Local up to \$10,000.** Support the PRWC Youth Conservation Corps and interns between April 24-25 and your gift of \$25 becomes \$50. Every dollar raised during the 36-hour online giving campaign will be stretched further by bonus funds and prizes donated by Connecticut Community Foundation and generous sponsors.

Please make a special gift to PRWC before the match runs out to have your gift more than doubled. Your gift will foster a sense of responsibility for natural resources, civic engagement and a life-long connection to the environment in our next generation of stewards. Every gift at any level makes a difference!

Don't let this generous matching opportunity float away!



Greater Waterbury and Litchfield Hills



April 24-25, 2018

Connecticut Community Foundation
www.GiveLocalCCF.org



Pomperaug River Watershed Coalition
39 Sherman Hill Road, C103
Woodbury, CT 06798
info@pomperaug.org

*Catch up on the latest
Watershed News online!
www.pomperaug.org*

Connecticut's Largest Earth Day Celebration!

WOODBURY EARTH DAY FESTIVAL

Presented by:
Pomperaug River Watershed Coalition

Saturday April 21
11 am - 4 pm
Hollow Park, Woodbury

Event Highlights

MAIN STAGE

Hannah's Field • Al DeCant • The Sea, The Sea • Byron Eddy
The Wool Hats String Band • Maia Dobbs • Raffle for the River Drawing

FOOD TRUCKS

El Camion • The Big Green Eggs & Hamburgers • Sonny's Grinders • Fryborg
Pizza to the People • Hardcore Sweet • Chet's Italian Ice • Sonny's Grinders
Lenny & Joe's Fish Tales • Pork N' More Grill • Keifer's Kettle Korn • Topsy Cones

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Home Energy Solutions • Home Improvement Services • & So Much More

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Scavenger Hunt • Rain Barrel Workshops • & So Much More

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www.woodburyearthday.org

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