

Appendix E

Community Workshop Meeting Summaries

MILL RIVER WATERSHED

draft MANAGEMENT PLAN PRESENTATION

WEDNESDAY - September 5 * 6PM

@ ELI WHITNEY MUSEUM

(915 WHITNEY AVENUE, HAMDEN)

THURSDAY - September 6 * 6PM

@ CHESHIRE SENIOR CENTER

(240 MAPPLE AVENUE, CHESHIRE)

Free and open to the public

RSVP: ndavis@savethesound.org

View the draft plan @ <https://tinyurl.com/ycwfhne>

Funding was provided by the CTDEEP through a U.S. EPA Clean Water Act Section 319 grant.



Comments Received and incorporated into the final watershed plan (if not incorporated into the final watershed plan a response is provided in blue):

- The cover pictures and most of the pictures in the report seem to be from the lower Mill River. A more representative sampling of pictures throughout the watershed would be more appropriate.
- The benefits of having a public water supply designation are not fully conveyed in the narrative:
 - A public water supply watershed has some basic advantages relating to water quality that are not identified in the Plan. The State of Connecticut prohibits sewage discharges to public water supply sources. Water Utilities are required to perform sanitary surveys within the watershed, meaning commercial industrial and development sites are inspected on a regular basis. The Department of Public Health and the local water utility are required to be notified of applications submitted to local land use commissions. This allow the water utility and DPH to submit comment letters to land use commissions regarding development activities within the watershed.
 - Having a portion of the Mill River watershed also being a groundwater supply, is a benefit. The State Aquifer Protection Regulations prohibit new high risk uses from locating on the aquifer and require existing uses to meet a Best Management Practice standard. – Designation protects land use from high risk uses (i.e. gas stations & hazardous waste).
- Please use Rocky Top as a “case study”/pop out in the Plan under open space or community involvement <https://www.nhregister.com/metro/article/Rocky-Top-property-in-Hamden-preserved-permanently-12495066.php>
- Carbon Capture One idea was to spread New Haven yard waste/leaves - which are now trucked to Hamden or West Haven and costs contractors \$50 a load - on degraded and abandoned land in Fair Haven and elsewhere. The tipping fees could potentially go to the City to cover cost of spreading materials...Could also maybe throw in seeds – (this is an important environmental concept and although Carbon Capture has not been addressed as part of the watershed based plan at this time, the steering commit would like the topic to remain open for discussion and future consideration).

2.1 I would include Clark’s Pond on the list of major surface waterbodies.

2.5 Open Space I am aware of the State acquiring development rights to farmland adjacent to Sleeping Giant Golf course.

Pg. 26/29 – add to list of open space - Fresh Meadows, Wallingford (93 acres),Naugatuck state Forest, & Brooksvale Park should be listed as well.

Pg. 26-27/29-30 - could a sentence or two be added to the first paragraph in section 2.6 acknowledging this feature -Fresh Meadows in Wallingford (different from Fresh Meadows in

Cheshire), is comprised primarily of swamp deposits with a noteworthy glacial erratic that measures 21' in diameter. (Figure 5 on pg 13 of report referenced below has an image) - Porter, Stephen C. 1960. State Geological and Natural history Survey of Connecticut, Quadrangle Report No. 10, the Surficial Geology of the Wallingford Quadrangle with Map. http://www.ct.gov/deep/lib/deep/geology/quadreports/qr-10_pamphlet.pdf

Pg 37/40 - Wallingford Land Trust is not listed as a local organization.

Can a recommendation under water quality (or where appropriate) be added to conduct stream flow monitoring in the Upper Mill River Subwatershed.

3.4.5 The Town of Hamden Zoning regulations were significantly revised in 2009 from a use based zoning to form based zoning This overhaul of the regulations also included a significant strengthen of stormwater regulations and a more realistic approach to required parking. Other Town's in the watershed should be encourage to follow Hamden's lead on stormwater management and parking requirements.

3.4.5.2 second paragraph should also list Naugatuck State Forest.

Cheshire and Hamden have very good histories of protecting open space. Their efforts should be noted in this section. Figure 8 Open Space map: Brooksvale Park in Hamden is not shown on the map. There is also some RWA property that is not shown

3.4.5.3 Public Access Fishing is allowed along the Mill River from River Road to Skiff Street. Clarks Pond is one of the few handicapped accessible fishing areas in the State. Several sites along the Mill River are stocked by the DEEP.

Pg. 152 – explain why 300' was used? The color used for Barren and Local Basins are the same. ([The 300' Riparian Zone Land Cover is a dataset developed by UCONN CLEAR \(2015\), based on existing land cover data. The 300' corridor calls attention to land use directly adjacent to the water bodies and has no regulatory purpose.](#))

Attachment D: Other GI opportunities Table:

- United Way – the site location should be “370 James St” with an updated recommendation “potential to incorporate bioretention islands throughout the side and rear parking lots. Work with property owner and Mill River Trail Advocates to utilize the western corner of the parking lot for bioretention and education.’ (or similar)
- Add: John S. Martinez Parking Lot – information can be found in the 2012 GI and feasibility scan for Bridgeport and New Haven – please also reference or footnote that study. Pictures of the site will be provided
- Add: Elim Park, Cheshire - Support ongoing efforts at Elim Park to retain and treat stormwater onsite and to increase accessibility to the river while promoting and restoring the natural landscape.
- Add: Mill River Trail, New Haven, - Prioritize public access incorporating Green Infrastructure where appropriate.

Construction of improvements to the Humphrey Street Pump Station are underway. This project will result in closure of Regulator 026 in 2019.

of some CSOs, modifications to others to ensure sewer separation, installation of additional storage, and CSO flow monitoring.

Of the 13 remaining CSOs maintained by GNHWPCA that discharge directly to receiving waters, three discharge to the Mill River:

- **CSO #009 at Grand Avenue and James Street:** The weir was raised in 2015. The reported reduction in CSO discharge volume based on the modeled 2-year design storm in 2016 compared to 1997 is 0.1 million gallons. The LTCP calls for a final status of inactive.
- **CSO #011 at Humphrey Street and I-91:** 2017 update status indicates that sewer separation design is complete. A CSO Storage Tank is proposed as a capital improvement in the LTCP. ^{Two} Three additional active regulators (~~#010(A), #011, and #026~~) contribute discharges to the CSO #011 outfall.

- **CSO #012 on Mitchell Drive east of Nicoll Street:** The weir was raised in 2013. The reported reduction in CSO discharge volume based on the modeled 2-year design storm in 2016 compared to 1997 is 0.8 million gallons. ~~A capacity improvement project is planned and design of that project is underway. The LTCP calls for closure of the CSO.~~ One additional active regulator (#028) contributes discharges to the CSO #012 outfall.

Three additional CSOs that previously discharged to the Mill River were closed in 2014.

In 2017, CSO discharges resulted in 4.86 million gallons of CSO flow into the Mill River from a combined 43 overflow events (another 10.64 million gallons discharged directly to the New Haven Harbor). One CSO in particular (CSO #011) contributed the majority (81%) of the discharge volume, at 3.916 million gallons over 13 events. This made it one of the top four CSO overflows in Greater New Haven in terms of volume of discharge during the 2017 reporting period (May 2016 to April 2017). The remaining 19% of CSO discharges to the Mill River came from CSO 009 (0.855 million gallons) and CSO 012 (0.087 million gallons). CSO discharge volume to the Mill River during the 2017 reporting period was more than double that of the 2016 reporting period (2.22 million gallons). CSO discharge volume for the 2015 reporting period was 6.27 million gallons. Differences from one reporting period to the next reflect both differences in annual precipitation and changes due to CSO closures/modifications.

Construction of a capacity improvement project and improvements to the Mitchell Drive Pump Station are underway. These projects will result in closure of Regulator 028 and CSO 012 by 2019.

2.8.4 Stormwater

Urban stormwater runoff generated in developed areas from buildings, pavement, and other compacted or impervious surfaces is a significant source of pollutants to the Mill River and its tributaries. Impervious surfaces prevent infiltration of rainfall and runoff into the ground. Stormwater generated from impervious surfaces typically contains increased pollutants from the atmosphere, vehicles, industry, lawns, construction sites, humans and animals. Without treatment, these pollutants are conveyed from the impervious surfaces to storm drainage systems and eventually to the receiving waterbodies during storms. Impervious surfaces and traditional piped storm drainage systems increase the volume, peak flow rates, and velocity of stormwater runoff to receiving waters. This can contribute to channel erosion, sedimentation, and reduced stream baseflow during dry periods. The amount of impervious cover in the Mill River watershed and the implications for water quality and overall stream health is discussed in Section 5 of this technical memorandum.

3.4 Urban/Suburban BMPs

Goal Statement: Promote sustainable land use and appropriate development in the watershed while protecting and improving water quality and natural resources, enhancing public access to and connectivity of waterbodies and open space, and addressing current and future flooding problems.

3.4.1 Combined Sewer Overflows

As described in *Technical Memorandum 1—Existing Watershed Conditions: Mill River Watershed-Based Plan* (Fuss & O'Neill, 2018a), during wet weather, portions of the combined sanitary and storm sewer system in the City of New Haven become overwhelmed and combined sewage overflows to nearby receiving waters. These discharges are referred to as Combined Sewer Overflows (CSOs). There are three remaining permitted CSO outfalls to the Mill River – CSOs 009, 011, and 012. The Greater New Haven Water Pollution Control Authority (GNHWPCA) is in the process of implementing a phased plan to reduce CSOs to the Mill River, which includes traditional gray infrastructure and green infrastructure approaches.

GNHWPCA should continue to implement CSO abatement measures to further reduce CSO discharges to the Mill River consistent with its CSO abatement plan. Specific CSO-related recommendations are described below and summarized in *Table 3-6*.

Recommended Actions

- Continue to update and implement the CSO Long Term Control Plan, including short, intermediate and long term CSO control measures to achieve zero discharges from CSO outfalls for up to a 2-year, 6-hour rainfall event by 2036. CSO wet weather capacity improvements in the Mill River watershed that are identified in the GNHWPCA Long Term Control Plan include:

- Raising the regulator weir at CSO 009 (completed in 2015)
- Conducting an Infiltration and Inflow removal project at CSO 009 (completed) in 2016.
- Completing sewer separation at CSO 009
- Installing a 1.3 million gallon CSO storage tank at CSO 011

Regulator

- Closing CSO 014 (completed in 2014)
- Upgrading the pump station at CSO 026 (under construction)
- Closing CSO 026 (scheduled to be completed in 2019)
- Raising the weir at CSO 012 (completed in 2013)
- Completing a capacity improvement project at CSO 012 (under construction)

Regulator

- Closing CSO 012 (scheduled to be completed in 2019)
- Upgrading the pump station at CSO 028 (under construction)
- Closing CSO 028 (scheduled to be completed in 2019)

Regulator

Regulator

- Continue to require the use of green infrastructure stormwater management practices (e.g., infiltrators and drywells, rain water storage tanks, bioswales and tree wells, water features) for development projects within combined sewer areas in accordance with the GNHWPCA Permitting and Design Criteria Manual (retain runoff on-site for the 2-year, 6-hour rainfall event, or approximately 2.05 inches).
- Continue to collect flow monitoring data to evaluate the effectiveness of the ongoing CSO improvements in the Mill River watershed (i.e., CSO events, volumes, and pollutant loads)

September 12, 2018

Nicole Davis
Mill River Watershed Coordinator
Save the Sound
900 Chapel Street
Suite 2202 (Upper Mezzanine)
New Haven, CT 06510

RE: Letter of Support

Dear Nicole,

Thank you for inviting members of my staff, Barry Tomlinson and Rob Cota, to your recent community meeting in Cheshire.

As a not-for-profit Continuing Care Retirement Community, we are interested in promoting a clean and safe environment that enhances the quality of life for our residents and the greater Cheshire community. With this goal in mind, Elim Park Baptist Home is pleased to express its support for the Mill River Watershed Based Plan.

Our location in the Upper Mill River Sub-watershed makes us very aware of the need to improve the Mill River. We are especially interested in improving those portions of the river that run along our property adjacent to the Fresh Meadows Wildlife Sanctuary and at the Mill River/Cook Hill Road Crossing.

I understand that a series of local demonstration sites for this plan was presented at your recent community meeting. Elim Park would be interested in exploring the possibility of becoming another local partner in this important project.

Our Development Office is also interested in identifying funding sources and applying for grant funds that could help us provide better water infiltration systems and infrastructure, improve trails along the river, promote better water flow, or improve fish and wildlife habitats. Any suggestions you have would be appreciated.

I look forward to hearing more as implementation of this plan moves along in the coming months. Meanwhile, feel free to reach out to me directly at 203-272-3547 ext. 119 if Elim Park can be of any further assistance. Thanks again.

Sincerely,



Brian Bedard
President/CEO

cc: Barry Tomlinson, Director of Development
Rob Cota, Administrator of Independent Living



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**Mill River Watershed
Stream Assessments
Work Plan**

Streams/Subwatersheds to Assess

Streams/subwatersheds with identified water quality issues (i.e., impairments) were selected for the stream assessments. Stream assessments are proposed along the mainstem of the Mill River above and below Lake Whitney; and Shepard Brook (see attached maps). One reach was also selected in the Willow Brook watershed, where water quality is very good. This reach will serve as a baseline or reference reach.

1. Upper Mill River:
2. Middle Mill River:
3. Shepard Brook:
4. Lower Mill River:
5. Willow Brook:

Assessment Reaches

Refer to attached maps and summary table for proposed stream reaches. Reaches were defined based on the following general criteria:

- At least one convenient access point from a road
- Located between major road crossings or a transition between significant land use change (generally include culverts with the associated downstream reach)
- Relatively homogeneous land use
- Separate reaches defined at confluence of two streams
- Reasonably accessible (check for private property)

NRCS Stream Visual Assessment

Stream Assessment Elements

- Channel condition
- Hydrological alteration
- Bank conditions
- Riparian quantity
- Riparian quality
- Canopy cover
- Water appearance
- Presence of waste
- Pools
- Barriers to aquatic species migration



A “Reach Level Assessment” form will be completed for each reach. In addition, separate “Area of Concern” forms will be completed for problems observed in each reach, including:

- Degraded buffers
- Erosion
- Fish barriers
- Manipulated channel
- Stormwater outfalls
- Trash-debris
- Water conditions

Recommended Materials, Equipment, and Staffing

Item	Needed
Mapping	GIS subwatershed maps Street maps
Equipment	Waders Tape measure Digital camera, extra batteries GPS unit (Commercial grade) Pencils, notebook, clipboard Cell phone Spray paint Clippers
Data Forms	Impact Forms Reach Assessment Form Photo Inventory Notification Letter
Staffing	1 or more teams of 2 people

Survey Logistics

1. Where practical, start at downstream end of the reach and walk up the stream corridor.
2. Convention is to face downstream when determining problems for the left and right stream bank
3. As individual impact sites are encountered, they are mapped (sketched and GPS coordinates obtained) and photographed, and an appropriate “Area of Concern” form completed.
4. Draw the location and ID number for each impact site on the reach diagram located on the Reach Level Assessment form.
5. After team walks the entire survey reach, record the general impression of reach conditions on the Reach Level Assessment form.
6. When conditions vary considerably within a reach, the reach should be split up into more uniform segments



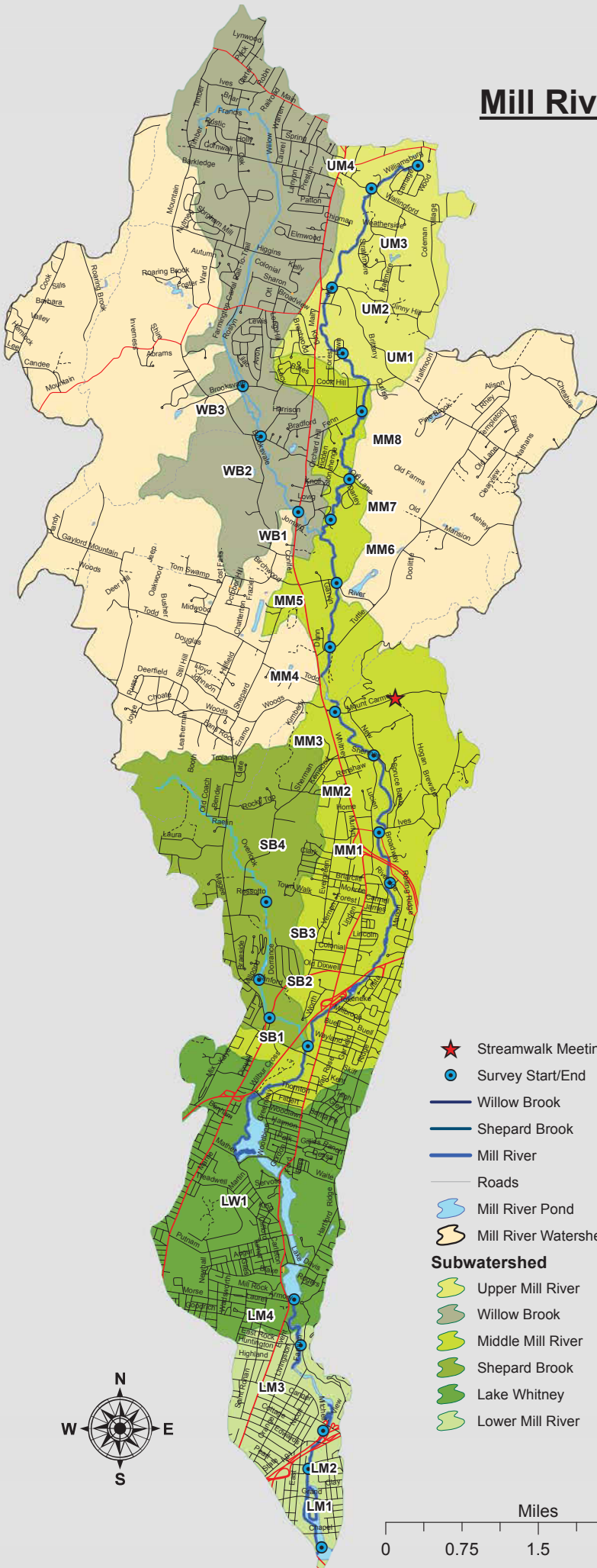
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General Safety and Responsibility

1. Plan each reach access location and vehicle drop off and pick up sites beforehand.
2. It is recommended to leave a volunteer letter on the dashboard of any cars left unattended while doing the stream survey.
3. Respect private property rights. If a landowner asks what you are doing, cordially inform them of your activities. If you are requested to leave the property, please do so. Information sheets with contact information are included in each packet for the landowner's information as needed.
4. The stream survey is intended to be informative and fun. If for any reason you are uncomfortable with landowner relations or stream conditions, move to another segment of the reach.

Mill River Watershed Stream Walk Reaches



Reach Name	Start > End	Additional Directions to Start
Upper Mill River		
UM4	Woodpond Road > Carriage Drive	Off Wallingford Road, Near Cheshire Hillside Cemetary
UM3	Jinny Hill Road > Woodpond Road	Off 10, Near Cheshire Shopping Center
UM2	Fawn Drive > Jinny Hill Road	N of Cookhill > Forest Lane > Fawn Drive
UM1	Fenn Road > Fawn Drive	S of Cookhill (Start upstream of pond)
Middle Mill River		
MM8	Old Lane Road > Fenn Road	Start E of 10 to Old Lane Rd End upstream of pond
MM7	Mill/Willow Confluence > Old Lane Road	Off Willow Street
MM6	River Road > Mill/Willow Confluence	E of 10, Hamden Fish & Game Protective Association
MM5	Tuttle Avenue > River Road	E of 10, Near Wentworth Ice
MM4	Mt. Carmel Avenue > Tuttle Avenue	Park on Mt Carmel Ave or parking lot nearby
MM3	New Road > Mt. Carmel Avenue	Intersection (In River, walk to Quinn. Entrance) Skip Pond
MM2	Ives Street > New Road	Follows parallel to Spruce Bank Road
MM1	Riverside Drive > Ives Street	E of 10, Riverside Drive
Shepard Brook		
SB4	Farmington Canal Trail > Headwaters	Park on Sanford Street, walk up Canal Trail
SB3	Sanford Street > Farmington Canal Trail	Sanford Street, along Canal Trail, go around Turners Pond. End at bridge over canal north of mile 5.1 on trail
SB2	Dixwell (Route 10) > Sanford Street	Along Farmington Canal Greenway Trail
SB1	Skiff Street > Dixwell	Confluence of Shepard/Mill
Lake Whitney		
LW1	Lake Whitney > Riverside Drive	To be assessed by RWA
Lower Mill River		
LM4	East Rock Road to Lake Whitney Dam	By boat only
LM3	Tide gate to East Rock Road	By boat only
LM2	Railroad tracks to tide gate	By boat only
LM1	Harbor to Railroad tracks	By boat only

Survey stream reaches from south to north. A zoomed in map with additional detail will be provided for each reach.



Appendix F

Pollutant Load Reduction Model Results

Estimated Pollutant Load Reductions												
Location and Element	Pollutant Load - L (lbs)				Removal Rates - Decimal %				Load Reduction - L (lbs)			Load Reduction FC (Billion Colonies)
	TN	TP	TSS	FC	TN	TP	TSS	FC	TN	TP	TSS	
Elm City College Preparatory Elementary												
1 Tree Box Filter	1.42	0.12	33.78	32.56	0.90	0.30	0.55	0.70	1.28	0.03	18.58	22.79
2 Curbside Bioswales	1.42	0.12	33.78	32.56	0.55	0.30	0.90	0.70	0.78	0.03	30.40	22.79
3 Subsurface Infiltration Chambers-adjacent to turf field	15.78	1.28	375.31	361.77	0.65	0.65	0.90	0.95	10.26	0.83	337.78	343.68
4 Pervious Pavement - parking spots parallel to James Street	3.94	0.32	93.83	90.44	0.90	0.40	0.40	0.95	3.55	0.13	37.53	85.92
Total									15.87	1.03	424.29	475.18
James Street												
1 Tree Box Filters	2.92	0.49	78.30	59.13	0.90	0.30	0.55	0.70	2.63	0.15	43.07	41.39
2 Curbside Bioswales or Bump-Outs	2.92	0.49	78.30	59.13	0.55	0.30	0.90	0.70	1.61	0.15	70.47	41.39
Total									4.24	0.29	113.54	82.78
Mill River Trail, Haven and Exchange Street Green Infrastructure												
1 Bioretention Areas and Pervious Trail	47.30	3.80	1125.90	1085.30	0.55	0.30	0.90	0.70	26.0	1.2	1,013.3	759.7
Total									26.00	1.20	1013.30	759.70
Wilbur Cross High School												
1 Bioretention Areas	34.32	2.78	816.29	786.84	0.55	0.30	0.90	0.70	18.88	0.83	734.67	550.79
2 Subsurface Infiltration Chambers	17.36	1.41	412.84	397.94	0.65	0.65	0.90	0.95	11.28	0.91	371.55	378.04
Total									30.16	1.75	1106.22	928.83
Livingston Street at East Rock Road												
1 Vegetated Water Quality Swale	12.19	2.05	326.26	246.38	0.90	0.30	0.55	0.70	10.97	0.61	179.44	172.47
2 Bioretention Areas	19.50	3.28	522.02	394.21	0.55	0.30	0.90	0.70	10.72	0.98	469.82	275.95
Total									21.69	1.60	649.26	448.41
YNHH Outpatient Services												
1 Pervious Pavement	9.07	0.74	215.80	208.02	0.90	0.40	0.40	0.95	8.17	0.29	86.32	197.61
2 Front Lawn Bioretention Area	3.16	0.26	75.06	72.35	0.55	0.30	0.90	0.70	1.74	0.08	67.56	50.65
3 Main Lawn Bioretention Areas	1.78	0.14	42.22	40.70	0.55	0.30	0.90	0.70	0.98	0.04	38.00	28.49
Total									10.88	0.41	191.88	276.75

Estimated Pollutant Load Reductions													
Location and Element	Pollutant Load - L (lbs)				Removal Rates - Decimal %				Load Reduction - L (lbs)			Load Reduction FC (Billion Colonies)	
	TN	TP	TSS	FC	TN	TP	TSS	FC	TN	TP	TSS		
Whitney High School North/West													
1	Pervious Pavement	42.96	3.48	1021.78	984.91	0.90	0.40	0.40	0.95	38.66	1.39	408.71	935.66
2	Subsurface infiltration--behind Staff Development Building	7.89	0.64	187.65	180.88	0.65	0.65	0.90	0.95	5.13	0.42	168.89	171.84
3	Bioretention Area	17.18	1.39	408.71	393.96	0.55	0.30	0.90	0.70	9.45	0.42	367.84	275.77
Total									53.24	2.23	945.44	1383.27	
Counter Weight Brewery, Spring Glen Nursery, and Raccio Park Road													
1	Rain Garden Trio- within parking area	4.73	0.38	112.59	108.53	0.55	0.30	0.90	0.70	2.60	0.12	101.33	75.97
2	Bioretention Area/ Rain Garden- Raccio Park Road	2.17	0.18	51.60	49.74	0.55	0.30	0.90	0.70	1.19	0.05	46.44	34.82
3	Pervious Pavement	11.05	0.90	262.72	253.24	0.90	0.40	0.40	0.95	9.94	0.36	105.09	240.57
Add-on	Additional Pervious Pavement- front lot	2.96	0.24	70.37	67.83	0.90	0.40	0.40	0.95	2.66	0.10	28.15	64.44
Total									16.40	0.62	281.01	415.80	
Bartlem Recreation Area													
1	Linear Bioretention	0.47	0.04	11.27	68.03	0.55	0.30	0.90	0.70	0.26	0.01	10.15	47.62
2	Vegetated Water Quality Swale	1.06	0.09	25.15	213.81	0.90	0.30	0.55	0.70	0.95	0.03	13.83	149.67
3	Pervious Pavement	1.64	0.13	39.02	242.97	0.90	0.40	0.40	0.95	1.48	0.05	15.61	230.82
4	Bioretention Area/Raingarden	21.85	1.98	424.87	58.31	0.55	0.30	0.90	0.70	12.02	0.59	382.38	40.82
Total									14.71	0.68	421.97	468.92	
Strathmore Drive													
1	Bioretention Area	22.23	2.64	676.56	132.13	0.55	0.30	0.90	0.70	12.23	0.79	608.90	92.49
Total									12.23	0.79	608.90	92.49	
Grand Total									205.42	10.61	5755.81	5332.15	

Appendix G

Potential Funding Sources

Mill River Watershed Based Plan - Potential Funding Sources

Funding Source	Description	Reference
EPA and WEF National Municipal Stormwater and Green Infrastructure Awards Program	The National Municipal Stormwater and Green Infrastructure Awards program, led by the Water Environment Federation (WEF) through a cooperative agreement with the U.S. Environmental Protection Agency (EPA), has been established to recognize high-performing regulated Municipal Separate Stormwater Sewer Programs (MS4s). The objective of the program is to inspire MS4 program leaders to seek new and innovative ways to meet and exceed regulatory requirements in a manner that is both technically effective as well as financially efficient. Recognition of innovative approaches is also a highlight of this program.	http://www.wef.org/ms4awards/
EPA Urban Waters Small Grants Program	Funds research, investigations, experiments, training, surveys, studies, and demonstrations that will advance restoration of urban waters by improving water quality through activities that also support community revitalization and other local priorities. Projects proposed for funding must take place entirely within specific Eligible Geographic Areas.	http://www2.epa.gov/urbanwaters/urban-waters-small-grants
EPA Healthy Communities Grant Program	EPA New England's main competitive grant program to work directly with communities to reduce environmental risks to protect and improve human health and the quality of life.	http://www.epa.gov/region1/eco/uep/hcgp.html
EPA Environmental Education Grants	The Grants Program sponsored by EPA's Office of Environmental Education (OEE), Office of External Affairs and Environmental Education, supports environmental education projects that enhance the public's awareness, knowledge, and skills to help people make informed decisions that affect environmental quality.	https://www.epa.gov/education/environmental-education-ee-grants
FEMA (Federal Emergency Management Agency) Preparedness (Non-Disaster) Grants	FEMA provides state and local governments with preparedness program funding to enhance the capacity of their emergency responders to prevent, respond to, and recover from a range of hazards.	http://www.fema.gov/preparedness-non-disaster-grants
EPA Smart Growth	EPA helps communities improve their development practices and get the type of development they want. EPA works with local, state, and national experts to discover and encourage development strategies that protect human health and the environment, create economic opportunities, and provide attractive and affordable neighborhoods for people of all income levels.	https://www.epa.gov/smartgrowth/epa-smart-growth-grants-and-other-funding

Mill River Watershed Based Plan - Potential Funding Sources

Funding Source	Description	Reference
FEMA Hazard Mitigation Assistance	<p>FEMA’s Hazard Mitigation Assistance grant programs provide funding to protect life and property from future natural disasters.</p> <ul style="list-style-type: none"> · Hazard Mitigation Grant Program (HMGP) assists in implementing long-term hazard mitigation measures following a major disaster. · Pre-Disaster Mitigation (PDM) provides funds for hazard mitigation planning and projects on an annual basis. · Flood Mitigation Assistance (FMA) provides funds for projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis. 	http://www.fema.gov/hazard-mitigation-assistance
US Forest Service Land and Water Conservation Fund	<p>The Land and Water Conservation Fund (LWCF) provides money to federal, state and local governments to purchase land, water and wetlands for the benefit of all Americans.</p>	http://www.na.fs.fed.us/watershed/gp_innovation.shtm
National Forest Foundation	<p>Through its on-the-ground conservation programs, the National Forest Foundation supports action-oriented projects that directly enhance the health and well-being of America's National Forests and Grasslands and that engage the public in stewardship.</p>	https://www.nationalforests.org/grant-programs
United States Fish and Wildlife Service (USFWS)	<p>The USFWS administers a variety of natural resource assistance grants to governmental, public and private organizations, groups and individuals.</p>	http://www.fws.gov/grants/
USFWS North American Wetlands Conservation Act (NAWCA)	<p>NAWCA provides matching grants to organizations and individuals who have developed partnerships to carry out wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife.</p>	https://www.fws.gov/birds/grants/north-american-wetland-conservation-act/how-to-apply-for-a-nawca-grant.php
USFWS National Coastal Wetlands Conservation Grant Program (NCWCGP)	<p>The NCWCGP provides States with financial assistance to protect and restore these valuable resources. Projects can include (1) acquisition of a real property interest (e.g., conservation easement or fee title) in coastal lands or waters (coastal wetlands ecosystems) from willing sellers or partners for long-term conservation or (2) restoration, enhancement, or management of coastal wetlands ecosystems. All projects must ensure long-term conservation.</p>	http://www.fws.gov/coastal/coastalgrants/

Mill River Watershed Based Plan - Potential Funding Sources

Funding Source	Description	Reference
USFWS Partners for Fish and Wildlife Program	The Partners Program provides technical and financial assistance to private landowners and Tribes who are willing to work with USFWS and other partners on a voluntary basis to help meet the habitat needs of Federal Trust Species. The Partners Program can assist with projects in all habitat types which conserve or restore native vegetation, hydrology, and soils associated with imperiled ecosystems such as longleaf pine, bottomland hardwoods, tropical forests, native prairies, marshes, rivers and streams, or otherwise provide an important habitat requisite for a rare, declining or protected species.	http://www.fws.gov/partners/
Office for Coastal Management/ National Oceanic and Atmospheric Administration	This competitive grant program funds projects that are helping coastal communities and ecosystems prepare for and recover from extreme weather events, climate hazards, and changing ocean conditions.	http://www.coast.noaa.gov/resilience-grant
NRCS Conservation Reserve Program	The Conservation Reserve Program (CRP) pays a yearly rental payment in exchange for farmers removing environmentally sensitive land from agricultural production and planting species that will improve environmental quality.	http://www.nrcs.usda.gov/programs/crp/
NRCS Environmental Quality Incentives Program (EQIP)	For implementation of conservation measures on agricultural lands.	https://www.nrcs.usda.gov/wps/portal/nrcs/main/ct/programs/financial/eqip/
NRCS Emergency Watershed Protection (EWP) Program	The Emergency Watershed Protection (EWP) Program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, wind-storms, and other natural occurrences. EWP is an emergency recovery program which responds to emergencies created by natural disasters. It is not necessary for a national emergency to be declared for an area to be eligible for assistance. EWP is designed for installation of recovery measures. Activities include providing financial and technical assistance to remove debris from stream channels, road culverts, and bridges, reshape and protect eroded banks, correct damaged drainage facilities, establish cover on critically eroding lands, repair levees and structures, and repair conservation practices.	http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/

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Funding Source	Description	Reference
NRCS Floodplain Easement Program	NRCS is providing up to \$124.8 million in Emergency Watershed Protection Program-Floodplain Easement funding to help prevent damages from future storm events in Connecticut and other states affected by Hurricane Sandy. NRCS purchases the permanent easements on eligible lands and restores the area to natural conditions. The program complements traditional disaster recovery funding and allows NRCS to purchase a permanent easement on lands within floodplains that sustained damage from Sandy.	http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ct/home/?cid=stelprdb1143958
NRCS Healthy Forests Reserve Program	The Healthy Forests Reserve Program (HFRP) helps landowners restore, enhance and protect forestland resources on private lands through easements and financial assistance.	http://www.nrcs.usda.gov/programs/hfrp/proginfo/index.html
U.S. Department of Housing and Urban Development (HUD)	The Community Development Block Grant (CDBG) program is a flexible program that works to ensure decent affordable housing, provide services to the most vulnerable in our communities, and create jobs through the expansion and retention of businesses. CDBG-financed projects could incorporate green infrastructure into their design and construction. The Disaster Relief Appropriations Act of 2013 (Pub. L. 113–2) allocated \$5,400,000,000 of Community Development Block Grant disaster recovery (CDBG–DR) funds for the purpose of assisting recovery in the most impacted and distressed areas declared a major disaster due to Superstorm Sandy	https://www.hud.gov/program_offices/comm_planning/communitydevelopment/programs
CTDEEP Section 319 Grant Program	Clean Water Act Section 319 funds to effectively and efficiently address nonpoint source pollution are available to municipalities, nonprofit environmental organizations, regional water authorities/planning agencies, and watershed associations.	http://www.ct.gov/deep/cwp/view.asp?a=2719&q=325594&deepNav_GID=1654
CTDEEP Section 604(b) Grant Program	Under the federal Clean Water Act, Section 604(b) funds are awarded to CTDEEP to carry out water quality management planning including revising water quality standards; performing waste load allocation/total maximum daily loads, point and non-point source planning activities, water quality assessments and watershed restoration plans.	http://www.ct.gov/deep/cwp/view.asp?a=2688&Q=458026&depNav_GID=1511

Mill River Watershed Based Plan - Potential Funding Sources

Funding Source	Description	Reference
CTDEEP Connecticut Clean Water Fund	<p>The Connecticut Clean Water Fund (CWF) is the state's environmental infrastructure assistance program. The fund was established in 1986 to provide financial assistance to municipalities for planning, design and construction of wastewater collection and treatment projects. This program was developed to replace state and federal grant programs that had existed since the 1950s. The 1987 amendments to the Federal Clean Water Act required that states establish a revolving loan program by 1989. The fund was modified in 1996 to include the Drinking Water State Revolving Fund (DWSRF) to assist water companies in complying with the Safe Drinking Water Act by providing low cost financing. The CWSRF currently includes set-asides or reserves categories for green infrastructure, river restoration and small communities wastewater (including decentralized).</p>	http://www.ct.gov/deep/cwp/view.asp?a=2719&q=325576&deepNav_GID=1654%20
CT DEEP Connecticut Lakes Grant Program	<p>Provides matching grants for lake restoration projects to municipalities, lake authorities, and lake taxing districts at lakes that are available to the general public for recreation. Funds for the Lakes Grant Program are made available through authorizations of the State Legislature and allocated by the State Bond Commission. The Lakes Grant Program requires a 25% match for studies and a 50% match for implementation of control measures. When funding is available for the Lakes Grant Program, notification is provided to every municipality in Connecticut and to groups who have previously inquired about funding for lake management projects.</p>	http://www.ct.gov/deep/cwp/view.asp?a=2719&q=332726&depnave_gid=1654
Long Island Sound Study - Long Island Sound Research Grant Program	<p>To support research that will enhance scientific understanding of Long Island Sound, and provide information needed by managers to protect and effectively manage the Sound and its valuable resources. Available to Connecticut academic institutions.</p>	http://longislandsoundstudy.net/research-monitoring/lis-research-grant-program/
CTDEEP Recreational Trails Grants Program	<p>Since 2015, CTDEEP's recreational trails program has provided funding to non-profits, municipalities, state departments and tribal governments in support of trail construction and/or restoration projects, accessibility improvements, purchase of trail maintenance equipment, land acquisition, and educational programs. Requests should be under \$1million, and a 20% match is required.</p>	http://www.ct.gov/deep/cwp/view.asp?a=2707&q=513740&deepNav_GID=1650

Mill River Watershed Based Plan - Potential Funding Sources

Funding Source	Description	Reference
CTDEEP Long Island Sound License Plate Program	Section 14-21e of the Connecticut General Statutes (CGS) authorizes the issuance of the Long Island Sound license plate by the Department of Motor Vehicles, while CGS Section 22a-27k establishes the Long Island Sound Fund to be administered by the Department of Energy and Environmental Protection into which proceeds from the sale of the plates are deposited.	http://www.ct.gov/dep/cwp/view.asp?a=2705&q=323782&depNav_GID=1635
CTDEEP Open Space and Watershed Land Acquisition	The Open Space and Watershed Land Acquisition (OSWA) Grant Program provides financial assistance to municipalities and nonprofit land conservation organizations to acquire land for open space and to water companies to acquire land to be classified as Class I or Class II water supply property.	http://www.ct.gov/dep/cwp/view.asp?a=2706&q=323834&depNav_GID=1641
CTDEEP Recreation and Natural Heritage Trust Program	The Recreation and Natural Heritage Trust program was created by the Legislature in 1986 in order to help preserve Connecticut's natural heritage. It is the CTDEEP's primary program for acquiring land to expand the state's system of parks, forests, wildlife, and other natural open spaces.	http://www.ct.gov/dep/cwp/view.asp?a=2706&q=323840&depNav_GID=1641
CTDEEP Urban Forestry Grant Programs	<p>America the Beautiful Urban Forestry Grants: Grants of up to \$12,000 are available to assist municipalities and non-profits in local urban forestry efforts.</p> <p>Urban Forestry Outreach Grant: Grants for non-profit organizations in urbanized areas to foster outreach in these areas.</p>	http://www.ct.gov/dep/cwp/view.asp?a=2697&q=322872&depNav_GID=1631&depNav=
CT OPM Small Town Economic Assistance Program (STEAP)	Funds economic development, community conservation and quality of life projects for localities that are ineligible to receive Urban Action (CGS Section 4-66c) bonds. This program is administered by the Office of Policy and Management. STEAP funds are issued by the State Bond Commission and can only be used for capital projects. Eligible projects include projects involving environmental protection. STEAP fnds were recently award to the Town of Bolton for preparation of a management plan for Bolton Lakes.	http://www.ct.gov/opm/cwp/view.asp?Q=382970

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Funding Source	Description	Reference
Connecticut In-Lieu Fee Program	The National Audubon Society, Inc., through its Connecticut program (Audubon Connecticut) is the sponsor of an In-Lieu Fee Program for aquatic resource compensatory mitigation required by Department of the Army authorizations. Audubon Connecticut administers a competitive grant funding program, soliciting proposals for wetland and waters restoration, enhancement, creation and/or preservation.	http://ct.audubon.org/conservation/in-lieu-fee-program http://www.nae.usace.army.mil/Missions/Regulatory/Mitigation/In-Lieu-Fee-Programs/CT/
American Rivers – NOAA Community-Based Restoration Program Partnership	These grants are designed to provide support for local communities that are utilizing dam removal or fish passage to restore and protect the ecological integrity of their rivers and improve freshwater habitats important to migratory fish.	https://www.fisheries.noaa.gov/national/habitat-conservation/strategic-habitat-restoration
FishAmerica Foundation Conservation Grants	FishAmerica, in partnership with the NOAA Restoration Center, awards grants to local communities and government agencies to restore habitat for marine and anadromous fish species. Successful proposals have community-based restoration efforts with outreach to the local communities.	https://www.fishamerica.org/grants/
NFWF Five Star and Urban Waters Restoration Grant Program	The Five Star and Urban Waters Restoration Program seeks to develop nation-wide-community stewardship of local natural resources, preserving these resources for future generations and enhancing habitat for local wildlife. Projects seek to address water quality issues in priority watersheds, such as erosion due to unstable streambanks, pollution from stormwater runoff, and degraded shorelines caused by development. The program focuses on the stewardship and restoration of coastal, wetland and riparian ecosystems across the country.	http://www.nfwf.org/fivestar/Pages/home.aspx
NFWF Long Island Sound Futures Fund	The Long Island Sound Futures Fund supports projects in local communities that aim to protect and restore the Long Island Sound. It unites federal and state agencies, foundations and corporations to achieve high-priority conservation objectives. Funded activities demonstrate a real, on-the-ground commitment to securing a healthy future for the Long Island Sound.	http://longislandsoundstudy.net/about/grants/lis-futures-fund/

Mill River Watershed Based Plan - Potential Funding Sources

Funding Source	Description	Reference
Corporate Wetlands Restoration Partnership (CWRP)	<p>The Corporate Wetlands Restoration Partnership (CWRP) is an innovative private-public initiative aimed at preserving, restoring, enhancing and protecting aquatic habitats throughout the United States. Bringing together corporations, federal and state agencies, non-profit organizations and academia, the CWRP allows members to contribute in a fundamental way to crucial projects involving America's coastal and inland aquatic resources and support related education programs. Since its inception in 1999, CWRP has aided in the restoration of more than 64,000 acres and 1,050 stream miles through the monetary donations and in-kind services of its corporate partners.</p>	http://www.cwrp.org/
Trout Unlimited Embrace A Stream	<p>Embrace-A-Stream (EAS) is a matching grant program administered by TU that awards funds to TU chapters and councils for coldwater fisheries conservation.</p>	http://www.tu.org/conservation/watershed-restoration-home-rivers-initiative/embrace-a-stream
Community Foundation for Greater New Haven	<p>A variety of competitive funding opportunities for non-profit groups are offered by The Community Foundation for Greater New Haven.</p>	http://www.cfghn.org/Grant/AboutourGrantmaking/tabid/189/Default.aspx
The Kresge Foundation	<p>This foundation's environment program launched an initiative that funds community driven efforts, directing support toward 1) climate resilience in coastal cities and regions; 2) climate resilience in low-income communities; 3) sustainable water-resources management in a changing climate; and 4) urban energy resilience. The Kresge Foundation provides funding through invited applications, as well as unsolicited proposals. Eligibility: U.S. based 501(c)(3) organizations (and Canadian equivalents). Government entities are also eligible.</p>	www.kresge.org/programs/environment
Wildlife Conservation Society Climate Adaptation Fund	<p>Provides \$2.5 million in funding annually, with awards ranging from \$50,000 to \$250,000. The program focuses on projects that promote functionality of ecosystems, long-term conservation impact, and landscape-scale impacts. All projects must conduct on-the-ground implementation; research and planning are not funded.</p>	https://www.wcsclimateadaptationfund.org/program-information/

Mill River Watershed Based Plan - Potential Funding Sources

Grant Search Resources

Please also see the following grant search resources for assistance in finding additional state, federal, local, and private sources of funding related to nonpoint source pollution management:

- Grants.gov
<http://grants.gov/>
- Federal Assistance Listings
<https://www.cfda.gov/>
- CTDEEP Watershed and Stormwater Funding Website
http://www.ct.gov/dep/cwp/view.asp?a=2719&q=335494&depNav_GID=1654&pp=12&n=1
- EPA Funding Sources for Watershed Protection and Restoration
<https://www.epa.gov/nps/funding-resources-watershed-protection-and-restoration>
- EPA Watershed Funding
<http://water.epa.gov/aboutow/owow/funding.cfm>
- EPA Green Infrastructure Funding Website
<https://www.epa.gov/green-infrastructure/green-infrastructure-funding-opportunities>
- Foundation Center: Philanthropy News Digest
[http://philanthropynewsdigest.org/rfps/\(search\)/?tags_interest\[\]=environment](http://philanthropynewsdigest.org/rfps/(search)/?tags_interest[]=environment)
- USDA National Agriculture Library: Water Quality Information Center
https://www.nal.usda.gov/waic/water-quality#quicktabs-waic_water_quality=2

Mill River Watershed Based Plan - Potential Funding Sources

Other Nonpoint Source Funding Opportunities

Congressional Appropriation - Direct Federal Funding
State Appropriations - Direct State Funding
Membership Drives Membership drives can provide a stable source of income to support watershed management programs.
Donations Donations can be a major source of revenue for supporting watershed activities, and can be received in a variety of ways.
User Fees, Taxes, and Assessments Taxes are used to fund activities that do not provide a specific benefit, but provide a more general benefit to the community.
Rates and Charges State law authorizes some public utilities to collect rates and charges for the services they provide.
Stormwater Utility Districts A stormwater utility district is a legal construct that allows municipalities to designate management districts where storm sewers are maintained in order to the quality of local waters. Once the district is established, the municipality may assess a fee to all property owners.
Impact Fees Impact fees are also known as capital contribution, facilities fees, or system development charges, among other names.
Special Assessments Special assessments are created for the specific purpose of financing capital improvements, such as provisions, to serve a specific area.
Property Tax These taxes generally support a significant portion of a county's or municipality's non-public enterprise activities.

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Other Nonpoint Source Funding Opportunities

<p>Excise Taxes These taxes require special legislation, and the funds generated through the tax are limited to specific uses: lodging, food, etc.</p>
<p>Bonds and Loans Bonds and loans can be used to finance capital improvements. These programs are appropriate for local governments and utilities to support capital projects.</p> <p>Green Bonds are a growing mechanism for funding green projects, including green infrastructure and flood resilience projects. Green bonds are debt instruments issued to finance environmental projects focused on climate change initiatives. The identification and labeling of a green bond is typically based on a set of voluntary standards drafted by a consortium of investment banks that outlines the process for issuers to designate specific green projects. The guidelines specify that a bond issue qualifies as green if the issuer uses the proceeds solely for capital expenditures associated with green or climate-related environmental benefits in accordance with certain standards.</p>
<p>Investment Income Some organizations have elected to establish their own foundations or endowment funds to provide long-term funding stability. Endowment funds can be established and managed by a single organization-specific foundation or an organization may elect to have a community foundation to hold and administer its endowment. With an endowment fund, the principal or actual cash raised is invested. The organization may elect to tap into the principal under certain established circumstances.</p>
<p>Emerging Opportunities for Program Support for Water Quality Trading Allows regulated entities to purchase credits for pollutant reductions in the watershed or a specified part of the watershed to meet or exceed regulatory or voluntary goals. There are a number of variations for water quality credit trading frameworks. Credits can be traded, or bought and sold, between point sources only, between NPSs only, or between point sources and NPSs.</p>
<p>Mitigation and Conservation Banks Created by property owners who restore and/or preserve their land in its natural condition. Such banks have been developed by public, nonprofit, and private entities. In exchange for preserving the land, the “bankers” get permission from appropriate state and federal agencies to sell mitigation banking credits to developers wanting to mitigate the impacts of proposed development. By purchasing the mitigation bank credits, the developer avoids having to mitigate the impacts of their development on site. Public and nonprofit mitigation banks may use the funds generated from the sale of the credits to fund the purchase of additional land for preservation and/or for the restoration of the lands to a natural state.</p>

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Other Nonpoint Source Funding Opportunities

Public Private Partnerships (P3s)

Innovative financing mechanisms are being explored at the national level, particularly tapping into the resources of the private sector through public-private partnerships (P3s). Traditionally, water and wastewater infrastructure has been funded through municipal bonds, with help from EPA State Revolving Loan funds, while stormwater is typically funded either through its limited share of local general funds or stormwater utilities. The Chesapeake Bay states are exploring P3s to meet TMDL obligations for nutrients and sediment. A P3 is an arrangement between government and the private sector in which the private sector assumes a large share of the risk in terms of financing, constructing, and maintaining the infrastructure. Government repays the private sector over the long term if the infrastructure is built and maintained according to specifications. Prince George's County, Maryland is implementing a P3 program to retrofit 2000 acres of impervious surfaces in the public right of way. Private funds will finance 30% to 40% of the program costs upfront, enabling project construction to begin sooner and proceed more quickly. This program is part of the County's Watershed Protection and Restoration Program.



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