



Tennessee Department of Environment and Conservation
 Division of Water Resources
 William R. Snodgrass Tennessee Tower,
 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
 1-888-891-8332 (TDEC)

Phase II Small Municipal Separate Storm Sewer System (MS4) Annual Report

1. MS4 Information

Name of MS4: Knox County Stormwater Management Program		MS4 Permit Number: TNS075582
Contact Person: Natalie Landry		Email Address: natalielandry@knoxcounty.org
Telephone: (865) 215-5540		MS4 Program Web Address: knoxcounty.org/stormwater
Mailing Address: 205 W Baxter Ave		
City: Knoxville	State: TN	ZIP code: 37917

What is the current population of your MS4? 251,784 (MPC, 2017)

What is the reporting period for this annual report? July 1 2019 to June 30 2020

2. Discharges to Waterbodies with Unavailable Parameters or Exceptional Tennessee Waters (Section 3.1)

- A. Does your MS4 discharge into waters with unavailable parameters (previously referred to as impaired) for pathogens, nutrients, siltation or other parameters related to stormwater runoff from urbanized areas as listed on TN's most current 303(d) list and/or according to the on-line state GIS mapping tool (tdeconline.tn.gov/dwr/)? If yes, attach a list. Yes No
- B. Are there established and approved TMDLs (<http://www.tn.gov/environment/article/wr-ws-tennessees-total-maximum-daily-load-tmdl-program>) with waste load allocations for MS4 discharges in your jurisdiction? If yes, attach a list. Yes No
- C. Does your MS4 discharge to any Exceptional Tennessee Waters (ETWs - http://environment-online.tn.gov:8080/pls/enf_reports/f?p=9034:34304:4880790061142)? If yes, attach a list. Yes No
- D. Are you implementing specific Best Management Practices (BMPs) to control pollutant discharges to waterbodies with unavailable parameters or ETWs? If yes, describe the specific practices: The County considers work within the watershed of ETWs to be priority construction activities. The additional requirements outlined in section 5.4.1 of the TNCGP are applied within the entire watershed. Yes No

3. Public Education/Outreach and Involvement/Participation (Sections 4.2.1 and 4.2.2)

- A. Have you developed a Public Information and Education plan (PIE)? Yes No
- B. Is your public education program targeting specific pollutants and sources, such as Hot Spots? If yes, describe the specific pollutants and/or sources targeted by your public education program: The Storm Drain Style-Off initiative educates the public about stormwater infrastructure & keeping green waste, oils / auto fluids & trash out of the storm drain system. The Strong Streams promotional materials and programs encouraged & promoted planting & preserving residential streamside buffers to address excess nutrient / fertilizer (nitrogen / phosphorous) inputs into local waterways from private land uses. The Environmental Stewardship Program targets sediment and nutrients. The children's books target sediment, pathogens, and microplastics. Yes No

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C. Do you have a webpage dedicated to your stormwater program? If yes, provide a link/URL: www.knoxcounty.org/Stormwater Yes No

D. Summarize how you advertise and publicize your public education, outreach, involvement and participation opportunities: The Stormwater social media accounts, branded as Strong Streams, include Facebook, Twitter, Instagram and YouTube, are scheduled weekly based on events, success stories, green-friendly practices installed through the Environmental Stewardship Program and education campaigns. A newsletter promoting upcoming workshops & educational opportunities and other stormwater news is sent via email to 500+ people and posted on the website and Facebook page. Flyers are posted at local coffee shops, grocery stores and libraries. Free and paid listings for events and campaigns are put in local newspapers and in Facebook ads. Staff seek out local journalists to promote events and issues important to residents.

E. Summarize the public education, outreach, involvement and participation activities you completed during this reporting period: Knox County Stormwater has conducted water quality lessons for children in several schools and afterschool programs throughout the county through the use of the EnviroScape model and an augmented reality (AR) sandbox that shows how water reacts to topographic changes. School instruction halted in March 2020 due to COVID19 as did various scheduled outreach events. (Please refer to the attached list of canceled and postponed events.) Staff participated the 2019 Powell Station Flotilla on Beaver Creek which was a large community event involving 200+ boaters floating down the creek. The event had an array of educational booths from the county and other community partners. At the first half of the permit year, we participated in many community events including John Sevier Days and the Apple Festival. Knox County has an active adopt-a-stream program and we conducted two orientations this year for new groups. We received a grant from TDA to address bacteria pollution in the Roseberry Creek watershed. The grant included funding for the renovation of the old outdoor classroom at East Knox Elementary School, completed with rebuilding of trails and installation of a riparian buffer. Knox County also participated in the Dogwood Home and Garden Show with a booth organized by the Water Quality Forum and the Rain Barrel Truckload sale that successfully sold 83 rain barrels in the Knoxville area. In an effort to address dumping/blowing of leaves into the county ROW by landscape companies, we mailed an educational letter to 50 local landscape and lawn care companies. Internally, we conducted a spill response training for the highway crews to educate the staff on spills that occur on county roadways. We also removed approximately 1,500 lbs of sediment off our Baxter Ave campus EPW during the annual clean up.

F. Summarize any specific successful outcome(s) (e.g., citizen involvement, pollutant reduction, water quality improvement, etc.) fully or partially attributable to your public education and participation program during this reporting period: Citizen involvement in our programs, events & activities has resulted in the following reportable metrics in Knox County in FY20:

Adopt-a-Stream Cleanup Events: 6

Trash Removed (pounds): 1,082

Rain Gardens Installed: 1

Grass Swales replacing eroding ditches: 12

Bioswales replacing eroding ditches: 2

Students Educated: 923

People educated/Awareness Raised: 2,521

4. Illicit Discharge Detection and Elimination (Section 4.2.3)

A. Have you developed and do you continue to update a storm sewer system map that shows the location of system outfalls where the municipal storm sewer system discharges into waters of the state or conveyances owned or operated by another MS4? Yes No

Phase II Small Municipal Separate Storm Sewer System (MS4) Annual Report

- B. If yes, does the map include inputs into the storm sewer collection system, such as the inlets, catch basins, drop structures or other defined contributing points to the sewershed of that outfall, and general direction of stormwater flow? Yes No
- C. How many outfalls have you identified in your storm sewer system? 4595 outfalls
- D. Do you have an ordinance, or other regulatory mechanism, that prohibits non-stormwater discharges into your storm sewer system? Yes No
- E. Have you implemented a plan to detect, identify and eliminate non-stormwater discharges, including illegal disposal, throughout the storm sewer system? If yes, provide a summary: Knox County is currently using many methods to detect, identify and eliminate illicit discharges. One method is through the dry weather screening program, which identifies hot spot areas in the County by utilizing land use maps, zoning maps, complaint tracking and SPAP and TDEC permits. We also issue Special Pollutant Abatement Permits (SPAPs) to "hot spot" businesses, which include automotive and restaurant related businesses as well as businesses with large parking areas. Complaint and spill tracking is also used to determine where there are issues and this helps us determine what kind of education and outreach needs to be implemented and where that would be most effective. All of these tools are administered through our robust GIS Applications and maintained in our E-Codes database. We also apply for and administer 319 watershed grants so we can help citizens repair failing septic systems or connect to the sewer system, if available. We enforce our illicit discharge ordinance through our enforcement response plan, which allows us to write Notices of Violation and Civil Penalties up to \$5000 per day/per violation. Yes No
- F. How many illicit discharge related complaints were received this reporting period? 138
- G. How many illicit discharge investigations were performed this reporting period? 122
- H. Of those investigations performed, how many resulted in valid illicit discharges that were addressed and/or eliminated? 89

5. Construction Site Stormwater Runoff Pollutant Control (Section 4.2.4)

- A. Do you have an ordinance or other regulatory mechanism requiring:
- Construction site operators to implement appropriate erosion prevention and sediment control BMPs consistent with those described in the TDEC EPSC Handbook? Yes No
- Construction site operators to control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste? Yes No
- Design storm and special conditions for unavailable parameters waters or Exceptional Tennessee Waters consistent with those of the current Tennessee Construction General Permit (TNR100000)? Yes No
- B. Do you have specific procedures for construction site plan (including erosion prevention and sediment BMPs) review and approval? Yes No
- C. Do you have sanctions to enforce compliance? Yes No
- D. Do you hold pre-construction meetings with operators of priority construction activities and inspect priority construction sites at least monthly? Yes No
- E. How many construction sites disturbing at least one acre or greater were active in your jurisdiction this reporting period? 269

- F. How many active priority and non-priority construction sites were inspected this reporting period? 269
 G. How many construction related complaints were received this reporting period? 43

6. Permanent Stormwater Management at New Development and Redevelopment Projects (Section 4.2.5)

- A. Do you have a regulatory mechanism (e.g. ordinance) requiring permanent stormwater pollutant removal for development and redevelopment projects? If no, have you submitted an Implementation Plan to the Division? Yes No
 Yes No
- B. Do you have an ordinance or other regulatory mechanism requiring:
 Site plan review and approval of new and re-development projects? Yes No
 A process to ensure stormwater control measures (SCMs) are properly installed and maintained? Yes No
 Permanent water quality riparian buffers? If yes, specify requirements: 25 foot minimum and 50 foot average buffer width required to be shown on a recorded plat. Yes No
- C. What is the threshold for development and redevelopment project plans plan review (e.g., all projects, projects disturbing greater than one acre, etc.)? All projects that disturb over an acre or projects that add 10,000 square feet or more of impervious area
- D. How many development and redevelopment project plans were reviewed for this reporting period? 86
- E. How many development and redevelopment project plans were approved? 75
- F. How many permanent stormwater related complaints were received this reporting period? 18
- G. How many enforcement actions were taken to address improper installation or maintenance? 8
- H. Do you have a system to inventory and track the status of all public and private SCMs installed on development and redevelopment projects? Yes No
- I. Does your program include an off-site stormwater mitigation or payment into public stormwater fund? If yes, specify. _____ Yes No

7. Stormwater Management for Municipal Operations (Section 4.2.6)

- A. As applicable, have stormwater related operation and maintenance plans that include information related to maintenance activities, schedules and the proper disposal of waste from structural and non-structural stormwater controls been developed and implemented at the following municipal operations:
- Streets, roads, highways? Yes No
 Municipal parking lots? Yes No
 Maintenance and storage yards? Yes No
 Fleet or maintenance shops with outdoor storage areas? Yes No
 Salt and storage locations? Yes No
 Snow disposal areas? Yes No
 Waste disposal, storage, and transfer stations? Yes No
- B. Do you have a training program for employees responsible for municipal operations at facilities within the jurisdiction that handle, generate and/or store materials which constitute a potential pollutant of concern for MS4s? Yes No

If yes, are new applicable employees trained within six months, and existing applicable employees trained and/or retrained within the permit term? Yes No

8. Reviewing and Updating Stormwater Management Programs (Section 4.4)

- A. Describe any revisions to your program implemented during this reporting period including but not limited to:
Modifications or replacement of an ineffective activity/control measure. None for this reporting period.
Changes to the program as required by the division to satisfy permit requirements. N/A
Information (e.g. additional acreage, outfalls, BMPs) on newly annexed areas and any resulting updates to your program. N/A
- B. In preparation for this annual report, have you performed an overall assessment of your stormwater management program effectiveness? If yes, summarize the assessment results, and any modifications and improvements scheduled to be implemented in the next reporting period. See Attachment 5 Yes No

9. Enforcement Response Plan (Section 4.5)

A. Have you implemented an enforcement response plan that includes progressive enforcement actions to address non-compliance, and allows the maximum penalties specified in TCA 68-221-1106? If no, explain. _____ Yes No

B. As applicable, identify which of the following types of enforcement actions (or their equivalent) were used during this reporting period; indicate the number of actions, the minimum measure (e.g., construction, illicit discharge, permanent stormwater management), and note those for which you do not have authority:

<u>Action</u>	<u>Construction</u>	<u>Permanent Stormwater</u>	<u>Illicit Discharge</u>	<u>In Your ERP?</u>	
Verbal warnings	# <u>16</u>	# <u>37</u>	# <u>0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Written notices	# <u>17</u>	# <u>8</u>	# <u>41</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Citations with administrative penalties	# <u>7</u>	# <u>0</u>	# <u>0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Stop work orders	# <u>6</u>	# <u>N/A</u>	# <u>0</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Withholding of plan approvals or other authorizations	# <u>16</u>	# <u>13</u>	# <u>N/A</u>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Additional Measures	# <u>N/A</u>	# <u>N/A</u>	# <u>N/A</u>	Describe: _____	

C. Do you track instances of non-compliance and related enforcement documentation? Yes No

D. What were the most common types of non-compliance instances documented during this reporting period?
Construction:

_____ 1. Temporary sediment controls are not properly installed, functional and/or maintained. 2. Sediment controls are failing to retain sediment on site and sediment is entering waters of the state. 3. Necessary permits have not been obtained.

Illicit Discharges:

_____ 1. Failing or leaking sewer and septic systems and grey water discharges 2. Dumping of oils/solvents/chemicals in storm sewer system or stream (Residential), and 3. Dumping of yard waste in drainageway or storm sewer system

Permanent Construction:

_____ 1. Detention basins not being maintained, 2. Water Quality Units maintenance needed for sediment removal and 3. Water Quality Units maintenance needed for hydrocarbon booms replacement.

10. Monitoring, Recordkeeping and reporting (Section 5)

- A. Summarize any analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. Knox County continues to monitor streams for pathogens using the indicator E.coli and the 5-in-30 standard method. Samples were collected at eleven samping sites that represent new sites as we work through our impaired stream list and repeat sites that we continue to monitor each year to track for change based on restoration activities in specific watersheds. The results of the analyses are attached.
- B. Summarize any non-analytical monitoring activities (e.g., planning, collection, evaluation of results) performed during this reporting period. Knox County is conducting surveys of all streams with Unavailable Parameters requiring non-analytical surveys. The work includes stream surveys that document impacted buffers, severe erosion and trash & debris using the Center for Watershed Protection Unified Stream Assessment method. To date, a total of 134 stream miles have been walked and surveyed using ESRI Collector. There are approximately 80 stream miles to complete by end of the permit cycle.
- C. If applicable, are monitoring records for activities performed during this reporting period submitted with this report. Yes No

11. Certification

This report must be signed by a ranking elected official or by a duly authorized representative of that person. See signatory requirements in sub-part 6.7.2 of the permit.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Glenn Jacobs, Mayor
Printed Name and Title

Glenn Jacobs
Signature

9/8/2020
Date

Annual reports must be submitted by September 30 of each calendar year (Section 5.4) to the appropriate Environmental Field Office (EFO), identified in the table below:

EFO	Street Address	City	Zip Code	Telephone
Chattanooga	1301 Riverfront Pkwy, Suite 206	Chattanooga	37402	(423) 634-5745
Columbia	1421 Hampshire Pike	Columbia	38401	(931) 380-3371
Cookeville	1221 South Willow Ave.	Cookeville	38506	(931) 520-6688
Jackson	1625 Hollywood Drive	Jackson	38305	(731) 512-1300
Johnson City	2305 Silverdale Road	Johnson City	37601	(423) 854-5400
Knoxville	3711 Middlebrook Pike	Knoxville	37921	(865) 594-6035
Memphis	8383 Wolf Lake Drive	Bartlett	38133	(901) 371-3000
Nashville	711 R S Gass Boulevard	Nashville	37216	(615) 687-7000

Attachment 1

Knox County Waters from 2020 303(d) List and
 Exceptional Tennessee Waters in Knox County List

(Unavailable Parameters for pathogens, nutrients, siltation and other parameters related to stormwater runoff from urbanized areas)

Waterbody Name	Waterbody ID	Cause of Impairment (Unavailable Parameter)	Pollutant Source
TIER 1 STREAMS			
Grassy Creek	TN06010207011-0700	Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area
High Bluff Branch	TN06010201066-0600	Escherichia coli	Discharges from MS4 area
Hines Branch	TN06010207011-0500	Habitat loss due to other anthropogenic substrate alterations Escherichia coli	Discharges from MS4 area
Knob Fork	TN06010207011-0600	Nitrate+Nitrite Loss of biological integrity due to siltation Habitat loss due to other anthropogenic substrate alterations Alteration in stream-side or littoral vegetative cover Escherichia coli	Discharges from MS4 area
Little Turkey Creek	TN06010201037-1000	Loss of biological integrity due to siltation	Discharges from MS4 area
Meadow Creek	TN06010207011-0800	Escherichia coli	Discharges from MS4 area
Plumb Creek	TN06010207011-0900	Escherichia coli	Discharges from MS4 area
Sinking Creek	TN060102011330_1000	Escherichia coli	Discharges from MS4 area
Ten Mile Creek	TN060102011334-0100	Habitat loss due to alteration in streamside or littoral vegetative cover Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area
Turkey Creek	TN06010201340-1000	Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area
Willow Fork	TN06010207011-0300	Alteration in stream-side or littoral vegetative cover Loss of biological integrity due to siltation Escherichia coli	Discharges from MS4 area

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TIER 2 STREAMS			
Waterbody Name	Waterbody ID	Cause of Impairment (Unavailable Parameter)	Pollutant Source
Beaver Creek (segment 1000)	TN06010207011-1000	Phosphate Nitrates Escherichia coli Low Dissolved Oxygen Loss of biological integrity due to siltation Physical Substrate Habitat Alterations	<u>Segment 1000</u> Major Municipal Point Source Pasture Grazing Discharges from MS4 Area
Beaver Creek (segments 2000 and 3000)	TN06010207011-2000	Escherichia coli Loss of biological integrity due to siltation Physical Substrate Habitat Alterations	<u>Segments 2000 and 3000</u> Pasture Grazing Discharges from MS4 Area
Bullrun Creek	TN06010207014-1000	Escherichia coli Loss of biological integrity due to siltation Physical Substrate Habitat Alterations	Discharges from MS4 Area Pasture Grazing Channelization
Bullrun Creek	TN06010207014-2000	Escherichia coli	Discharges from MS4 Area Pasture Grazing
Casteel Branch	TN06010201066-0100	Loss of biological integrity due to siltation	Pasture Grazing Discharges from MS4 area
Fourth Creek (in vicinity of Westland Drive)	TN06010201697-1000	Physical Substrate Habitat Alterations Escherichia coli	Discharges from MS4 area (multiple MS4s) Channelization
Goose Creek	TN06010201723_1000	Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations Escherichia coli PCBs	Discharges from MS4 area (multiple MS4s) Collection System Failure RCRA Hazardous Waste
Grable Branch	TN06010207004-0100	Oil & Grease Loss of biological integrity due to siltation Physical Substrate Habitat Alterations	Minor Industrial Point Source Channelization Industrial Permitted Runoff Discharges from MS4 area
Grandview Branch	TN06010201066-0400	Escherichia coli	Grazing in Riparian or Shoreline Zones
Love Creek	TN06010104001-0100	Nitrate + Nitrite Loss of biological integrity due to siltation Other Anthropogenic Habitat Alterations Escherichia coli	Discharges from MS4 area (multiple MS4s)

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Knox County Waters from 2020 303(d) List and
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(Unavailable Parameters for pathogens, nutrients, siltation and other parameters related to stormwater runoff from urbanized areas)

Swanpond Creek	TN06010104001-1400	Loss of biological integrity due to siltation Alteration in stream-side or littoral vegetative cover Escherichia coli	Channelization Discharges from MS4 Area
Third Creek	TN06010201067_1000	Nitrate + Nitrite Escherichia coli Loss of biological integrity due to siltation Physical Substrate Habitat Alterations Escherichia coli	Discharges from MS4 area (multiple MS4s)
Whites Creek	TN06010201080-0100	Other Anthropogenic Habitat Alterations Escherichia coli	Discharges from MS4 area Streambank Modification

TIER 3 STREAMS

Waterbody Name	Waterbody ID	Cause of Impairment (Unavailable Parameter)	Pollutant Source
Flat Creek (segment 1000)	TN06010104019-1000	Phosphorous Escherichia coli	Pasture Grazing Municipal Point Source Collection System Failures
Gun Hollow Branch	TN06010201066-1200	Escherichia coli	Pasture Grazing
Little Flat Creek	TN06010104019-0100	Escherichia coli	Grazing in riparian or shoreline areas
Roddy Branch	TN06010201026-0100	Alteration in stream-side or littoral vegetative cover Physical Substrate Habitat Alteration, Loss of biological integrity due to siltation Escherichia coli	Pasture Grazing Channelization
Roseberry Creek	TN06010104001-0500	Escherichia coli	Pasture Grazing Septic Tanks
Stock Creek (Segments 1000 and 2000)	TN06010201066-1000 TN06010201066-2000	Escherichia coli	Pasture Grazing

Waterbody Name	Start and End points	Designation	Basis for Inclusion
Exceptional Tennessee Waters (ETW)			
Brice Branch Unnamed Tributaries	Portion in House Mountain SNA	Exceptional Tennessee Water	House Mountain State Natural Area
Clinch River	From Melton Hill Dam to Pellissippi Parkway	Exceptional Tennessee Water	State Scenic River (Class III Developed River Area)

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(Unavailable Parameters for pathogens, nutrients, siltation and other parameters related to stormwater runoff from urbanized areas)

Flat Creek Unnamed Tributary	Portion in House Mountain SNA	Exceptional Tennessee Water	House Mountain State Natural Area
French Broad River	From Holston River to Douglas Dam	Exceptional Tennessee Water	Endangered Species
Hogskin Branch	Portion in House Mountain SNA	Exceptional Tennessee Water	House Mountain State Natural Area
Holston River	From confluence with French Broad to McBee Island	Exceptional Tennessee Water	Endangered Species
Tuckahoe Creek	In its entirety	Exceptional Tennessee Water	State Scenic River (Class III Developed River Area)
Turkey Creek	From Fort Loudon Lake to Hwy 11	Exceptional Tennessee Water	Endangered Species

Tier 1 includes those streams where discharges from the County's public stormwater conveyance system (i.e., the MS4) are considered as the sole source of pollutant(s). Tier 1 streams are of primary focus in the County's water quality program, therefore permit compliance activities target the impairments in these waterbodies. The County's stormwater management program includes activities that target the pollutant(s) causing the impairment(s).

Tier 2 includes those streams where discharges from the County's MS4 are one of several sources of pollutant(s). Tier 2 streams are also a strong focus of the County's water quality program; therefore permit compliance activities target the impairments in these waterbodies. However, water quality improvements in these waterbodies likely cannot be achieved by the County's efforts alone.

Tier 3 includes those streams where discharges from Knox County's MS4 are NOT considered a source of pollutant(s). Water quality in these waterbodies are addressed by the County's stormwater management ordinance, general public education/outreach efforts and by other County stormwater program activities (e.g., illicit discharge enforcement), but the County's stormwater management resources are typically not highly focused on these streams.

TMDLs and HUC-8 Boundaries in Knox County

Lower Clinch - 0601020

2006 TMDL for Siltation/Habitat Alteration

- 06010207004_0100 Grable Branch
- 06010207011_0500 Hines Branch
- 06010207011_0600 Knob Fork
- 06010207011_0700 Grassy Creek
- 06010207011_0800 Meadow Creek
- 06010207011_1000 Beaver Creek
- 06010207011_2000 & 3000 Beaver Creek
- 06010207014_0100 Williams Branch
- 06010207014_0110 Foster Branch
- 06010207014_1000 Bullrun Creek

2010 TMDL for PCB's and Clordane

- TN06010207006-1000 Melton Hill Reservoir

Watts Bar/Fort Loudoun Lake - 06010201026

2006 TMDL for Siltation/Habitat Alteration

- 06010201026_0100 Roddy Branch
- 06010201066_0100 Casteel Branch
- 06010201066_0500 McCall Branch
- 06010201066_1000 Stock Creek
- 06010201067_1000 Third Creek
- 06010201080-0100 Whites Creek

2017 TMDL for E. coli

- 06010201026_0100 Roddy Branch
- TN06010201066_0400 Grandview Branch
- TN06010201066_0600 High Bluff Branch
- TN06010201066_1000 Stock Creek
- TN06010201066_1200 Gunn Hollow Branch
- TN06010201066_2000 Stock Creek
- TN06010201080_0100 White's Creek
- TN060102011330_1000 Sinking Creek
- TN060102011334_0100 Ten Mile Creek
- TN060102011340_1000 Turkey Creek
- TN060102011697_1000 Fourth Creek
- TN06010201723_1000 Goose Creek

2010 TMDL for PCB's and Clordane

- TN06010201020_1000 Fort Loudoun Reservoir
- TN06010201020_2000 Fort Loudoun Reservoir

2017 TMDL for E. coli

- TN06010207011_0200 Willow Fork
- TN06010207011_0500 Hines Branch
- TN06010207011_0600 Knob Fork
- TN06010207011_0700 Grassy Creek
- TN06010207011_0800 Meadow Creek
- TN06010207011_0900 Plumb Creek
- TN06010207011_1000 Beaver Creek
- TN06010207011_2000 Beaver Creek
- TN06010207011_3000 Beaver Creek
- TN06010207014_1000 Bullrun Creek
- TN06010207014_2000 Bullrun Creek

Holston-06010104

2018 TMDL for E. coli

- TN06010104001_0100 Love Creek
- TN06010104001_0500 Roseberry Creek
- TN06010104001_1400 Swanpond Creek
- TN06010104019_0100 Little Flat Creek
- TN06010104019_1000 Flat Creek

**Holston
06010104**

**Lower French Broad
06010107**

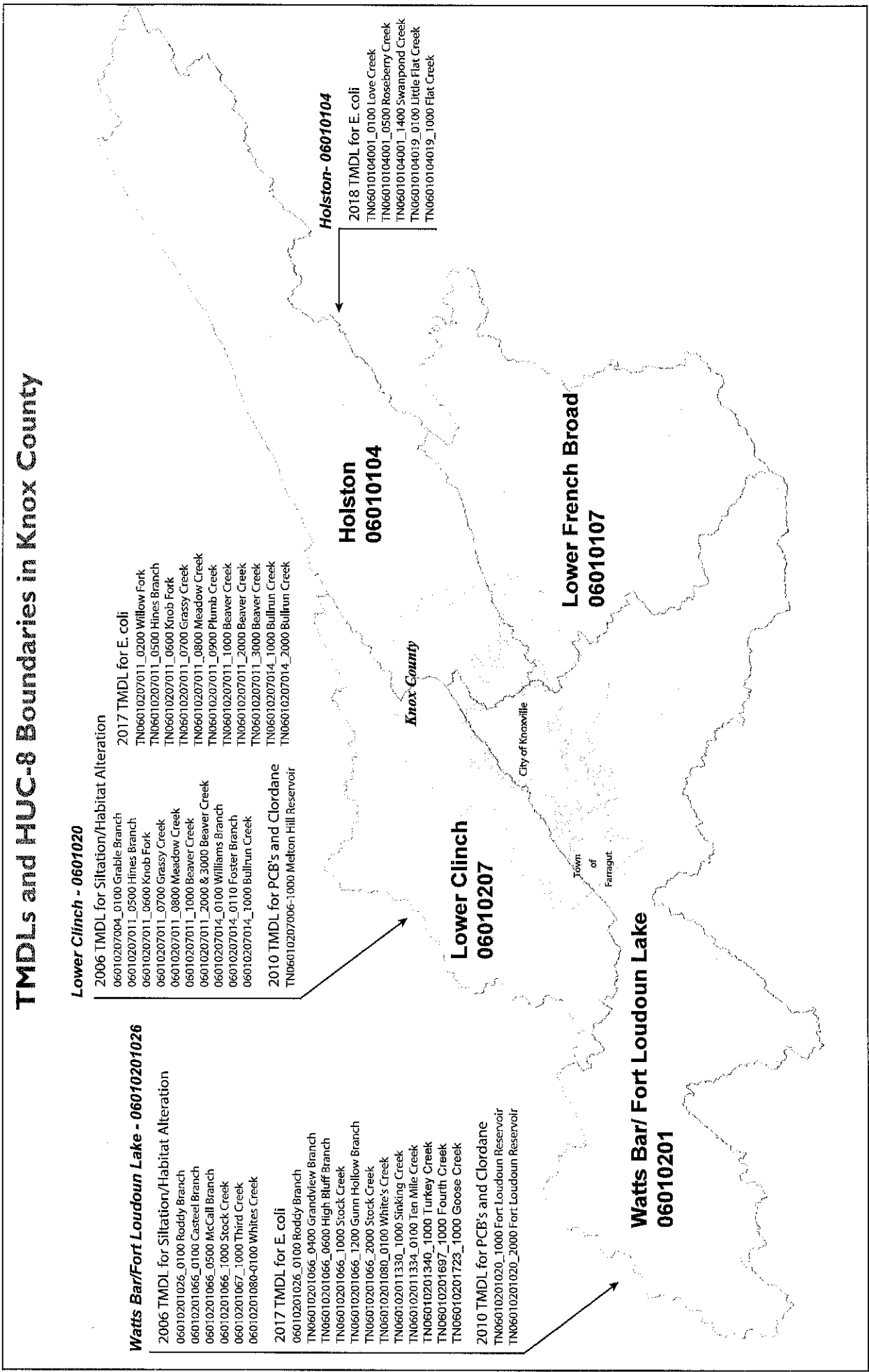
**Lower Clinch
06010207**

**Watts Bar/ Fort Loudoun Lake
06010201**

Knox County

City of Knoxville

Town of Farragut



Attachment 3
Cancelled and Postponed Outreach Events due to Covid19

Event	Lead	Date	Contingency
EKE Celebration	KC	April 25	Cancelled.
Hidden Rivers	PSCC	Various dates	Cancelled.
Families in the Creek	WQF	May 16	Cancelled.
Halls Outdoor Teaching	Knox County Schools	April 23	Cancelled due to schools being closed until April 24 th .
River Rescue	WQF	March 28	Event postponed.
Bonny Kate Fun Night	PTA	May 2	Cancelled.
STEAM Day-Corryton	Knox County Schools	May 12	Cancelled.
Ag in the Classroom	Farm Bureau	May 5	Cancelled.
Cheers to Clean Water	WQF	May 30	Postponing until Spring 2021
WaterFest	WQF	May 5	Cancelled.
Ivy Rain Barrel Sale	WQF	April 25	Changing pick update to June with COVID19 precautions in place.
Earth Day PSCC	PSCC	April 22	School is only on-line. Cancelled.

Guidance as of 3/15/2020

Large events and mass gatherings can contribute to the spread of COVID-19 in the United States via travelers who attend these events and introduce the virus to new communities. Examples of large events and mass gatherings include conferences, festivals, parades, concerts, sporting events, weddings, and other types of assemblies. These events can be planned not only by organizations and communities but also by individuals.

Therefore, CDC, in accordance with its guidance for large events and mass gatherings, recommends that for the next 8 weeks, organizers (whether groups or individuals) cancel or postpone in-person events that consist of 50 people or more throughout the United States.

Events of any size should only be continued if they can be carried out with adherence to guidelines for protecting vulnerable populations, hand hygiene, and social distancing. When feasible, organizers could modify events to be virtual.

This recommendation does not apply to the day to day operation of organizations such as schools, institutes of higher learning, or businesses. This recommendation is made in an attempt to reduce introduction of the virus into new communities and to slow the spread of infection in communities already affected by the virus. This recommendation is not intended to supersede the advice of local public health officials.

Attachment 4
Knox County: Outreach Public Participation 7/1/19 through 6/30/20

Action Date	Event/Outreach/Education	# Students	# general public	Eng/ contractor	Ibs of trash	Comments
07/09/2019	Knox County Stormwater Strong Streams Newsletter		483.00			Strong Streams newsletter was created and delivered successfully to 483 unique email addresses.
07/10/2019	Knox County Construction Services Newsletter			893.00		893 successful deliveries. Target audience is engineers, designers, consultants, contractors and developers.
08/10/2019	Powell Station Flotilla 2019		200.00			
09/07/2019	Stock Creek Farmers Breakfast		8.00			
09/19/2019	South Doyle Middle School Classroom Teaching	130.00				
09/22/2019	John Sevier Days		30.00			We'll be celebrating the life and times of Tennessee's
11/07/2019	Adopt-A-Stream Clean-Up - Beaver Creek Kayak Club		12.00		400.00	
10/07/2019	Fall 2019 Strong Streams Newsletter		478.00			
10/18/2019	Classroom lessons at Mooreland Elementary	42.00				
10/19/2019	Apple Festival		60.00			
10/22/2019	UT Sustainability Symposium	65.00				
10/22/2019	11th Annual Farmers' Banquet		215.00			
11/07/2019	Adopt-A-Stream Clean-Up - Elavon		15.00		280.00	
11/01/2019	Classroom lessons	42.00				
11/02/2019	East Knox Elementary Outdoor Classroom Community Work Day		12.00			
11/04/2019	Adopt-A-Stream Clean-Up - Asset Planning Corp		15.00		72.00	
11/07/2019	South Doyle Middle School Classroom Lesson	130.00				
11/11/2019	Landscaper Outreach for Leave & Yard Waste			52.00		Letter sent to local landscape and lawn care companies to alert them about placement of leaves in ROW.
11/13/2019	GIS Day	50.00				
11/19/2019	Adopt-A-Stream Clean-Up - Knoxville Ski & Outing Club		10.00		180.00	
12/04/2019	South Doyle Middle School Classroom Lessons	130.00				
12/06/2019	Classroom Lesson	42.00				
12/09/2019	East Knox Elementary Fun Day		17.00			
12/13/2019	Annual EPW Clean Up					approximately 1500 lbs of sediment were removed from the lot and drains
12/19/2019	Classroom Lesson	130.00				
01/14/2020	Watershed Planning 101 Presentation	12.00				
01/15/2020	Fecal Coliform in County Surface Waters		19.00			Community Presentation
01/23/2020	East Knox Elementary Family Fun Night		100.00			Sediment Survival game. Pollinator board and Roy talked with adults about NPS and Stormwater programs.
01/23/2020	Classroom Lessons	130.00				
02/14/2020	Dogwood Home and Garden Show		274.00			
02/21/2020	Classroom Lessons	20.00				
03/05/2020	Knox County Stormwater Strong Streams Newsletter		477.00			Winter Edition 2020
05/05/2020	Construction Services Newsletter Spring 2020			885.00		Construction exit and road construction inspections
05/07/2020	Knox County Public Works Spill Response Training			12.00		
05/13/2020	Rain Barrel Truckload Sale		83.00			
	Adopt-A-Stream Clean-Up - Knoxville Gay Men's Chorus		5.00		140	
06/17/2020	AAS Clean-Up - The Arc Knox County		8.00		10.00	
	totals	923	2521	1842	1082	

Attachment 5

NPDES Small MS4 Permit for Knox County

Annual Assessment: Milestone Year 4 (July 1, 2019-June 30, 2020)

This is the annual assessment of the Stormwater Management Plan, NOI and policy/procedures for Milestone Year 4 by the Stormwater Compliance Manager and Stormwater staff. This exercise is required by permit section 4.4.1. Comments are listed below the applicable BMP. If a BMP is not listed, then staff considered the activity on track or completed. The permit also requires a plan and schedule to address the modifications and improvements identified by the assessment. Targets for completion of each modification or improvement is noted.

Public Education and Public Participation

1B Knox County (KC) will create a PIE plan that details specific goals and specific public information events/activities that will occur over the permit cycle as per permit requirements.

- Due to Covid-19, some of the activities and events listed in the PIE Plan had to be postponed or cancelled. The table below describes the actions we took in response to the international pandemic. See Attachment 3 of the Annual Report.

1D KC will continue to support, participate in and maintain documentation for programs such as River Rescue, WaterFest, EarthFest, and other partnership programs, events, workshops and trainings as long as those programs and events remain in existence.

- See above.

1F KC SW Management staff will continue to require that staff attend at least 12 hours of continuing education annually. Continuing Education Units (CEUs) will be tracked using our database system.

- Budget cuts and COVID-19 impacted the second half of this reporting fiscal year and we anticipate both continuing to affect this permit year.

Illicit Discharge Detection and Elimination

2A Knox County will continue to develop, update, and maintain a storm sewer system map that shows the location of all outfalls, inputs into the storm sewer collection system, general direction of stormwater flow, and the names and locations of all waters of the state that receive discharges from those outfalls.

- Work out a standard procedure to add new infrastructure from the Highway Dept and new subdivisions into the storm sewer map.

2D KC will inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

- CWA Section 319 Grants funds were used for repairing septic systems and sewer connections.

Construction Site Runoff

3A Knox County will continue Pre-Con conferences, evaluate and make needed changes to the process.

- The checklist for Pre-Con has been updated periodically as topics for discussion has been identified by plan reviewers and inspectors.
- May be beneficial to create educational materials for the Pre-Con such as a video to engage the contractors and developers.
- May set specific days of the week for Pre-Cons instead of meetings set across the week and day.

3B Knox County will continue regular site inspections as per NPDES permit requirements (min of one time per month for all permitted priority construction sites as defined by the county). Knox County will evaluate and update the process on a regular basis. In the event of complaints or weather related issues, Knox County will respond more often than required.

- Consider a policy change for the small percentage of sites that have an impact on resources (staff and time) that are near completion and almost ready for NOT. Look to procedure used by Nashville. Deadline for evaluation is December 31, 2019.

3E Knox County will continue to implement the guidance document that is our ERP. Expect to review and amend as necessary.

- The Lot Level ERP was revised in December 2018. Staff assigned to Lot Level inspections in construction services resigned and the activity was shifted back to Codes Administration. May need to take a look at the Lot Level ERP in the next Milestone Year.

3F Applicable KC SW Management Staff and Highway Maintenance Staff will maintain certification under the TN Fundamentals of Erosion Prevention and Sediment Control Level 1 (or equivalent). Construction site plan reviewers will receive a certification of completion from the TN Erosion Prevention and Sediment Control Design Course Level 2. MS4 Staff will also fulfill any future state requirements for training during the permit cycle.

- The re-organization that occurred late in the fiscal year in Highways will necessitate a re-assignment of who tracks the certifications for Highway staff. This will be accomplished during the next Milestone Year.

3G KC will maintain an inventory of all active public and private construction sites that result in a total land disturbance of equal to or greater than one acre or are part of a larger common plan of development via a database.

- It would be helpful to establish a list of definitions. SOPs will be revised to provide consistent terms by December 2020.

3H KC will continue to implement site plan review procedure as per NPDES permit requirements. The County will continue to evaluate and update these procedures as appropriate.

- Staff would like to see digital plan submittals. This discussion will start Sept 2020.
- Senior Plan Reviewer, Leo LaCamera, is retiring in July 2019. He is taking valuable institutional knowledge with him. We should document the processes and interview him before he exits.

Permanent Stormwater Management Program

4B KC will submit an implementation plan within 90 days of January 1, 2018 (or later date if notified by TDEC).

- Action pending new implementation plan deadline by TDEC (waiting on new Stormwater Rule).

4C KC will continue to operate and enforce in accordance with the current stormwater program, ordinance adopted January 2008, which addresses permanent stormwater management from new development and re-development projects that disturb one or more acres, or add more than 10,000 sf of imperviousness. In 2016, KC accepted the extension to permanent stormwater provisions of the 2010 NPDES small MS4 permit and therefore did not modify the program or ordinance under the 2010 permit. The program will be modified, through ordinance revisions, as necessary to meet the Program Requirements, Permanent Stormwater Standards, Site- Specific Limitations and Water Quality Treatment Volume permit conditions per the implementation plan in 4B.

- Action pending new implementation plan deadline by TDEC (waiting on new Stormwater Rule).

4F KC will research, develop and implement an SCM owner/operator inspection program that meets the permit requirements.

- This BMP has not been implemented. This action is also pending implementation due to the litigation and proposed Stormwater Rule.

4H KC will continue to inventory and track all SCMs according to permit requirements. AmeriCorps Teams will assist with the tracking systems of SCM management.

- Planning to track KC green stormwater treatment infrastructure. Started in May 2020.

Municipal Pollution Prevention and Good Housekeeping

5A KC Stormwater Management will continue to aid in the development and execution of training programs by working with departments under the Knox County Mayor where there is potential for stormwater pollution.

- KC again had staff changes (lead staff for this MCS was let go suddenly). MCM needs attention. Monthly municipal inspections are on track as is training but overall program should be reassigned as soon as staff is replaced.

Knox County

Geometric Mean of E. Coli

Sorted by Year

HUC12 Name	2016 303 d list	Station ID	Fall 2016 Geometric Mean of 5 samples in 30 days	Recreation Criteria for Coliform
Bull Run Creek Lower	impaired	BULLR007.2AN	79	meets standard
Clinch River-Conner Creek	unassessed	CONNE000.1KN	493	impaired
Clinch River-Conner Creek	unassessed	CONNE001.7KN	1608	impaired
Beaver Creek Upper	Supporting	COX000.2KN	70	meets standard
Flat Creek	impaired	FLAT000.4KN	210	impaired
Holston River-Clift Creek	impaired	HOGSK000.1KN	332	impaired
Flat Creek	impaired	LFLAT000.3KN	327	impaired
Flat Creek	impaired	LFLAT005.9KN	1673	impaired
Holston River-Clift Creek	impaired	ROSEB000.6KN	672	impaired
Holston River-Clift Creek	impaired	ROSEB002.4KN	1093	impaired
Holston River-Clift Creek	impaired	ROSEB006.2KN	924	impaired
Stock Creek	impaired	STOCK002.0KN	158	impaired
First Creek	impaired	WHITE000.1KN	356	impaired
First Creek	impaired	WHITE003.2T000.3KN	693	impaired
First Creek	impaired	WHITE003.5KN	408	impaired
HUC12 Name	2017 303 d list	Station ID	Fall 2017 Geometric Mean of 5 samples in 30 days	Recreation Criteria for Coliform
Flat Creek	impaired	FLAT000.4KN	135	impaired
Stock Creek	impaired	HBLUF000.1KN	310	impaired
Stock Creek	impaired	STOCK002.0KN	198	impaired
Ten Mile Creek	impaired	TMILE000.3KN	256	impaired
Ten Mile Creek	impaired	SINKI000.2KN	233	impaired
Clinch River-Conner Creek	unassessed	CONNE000.1KN	196	impaired
Beaver Creek Upper	impaired	WILLO000.5KN	404	impaired
Beaver Creek Upper	impaired	HINES000.2KN	606	impaired
Beaver Creek Upper	impaired	KNOB000.3KN	237	impaired
Beaver Creek Lower	impaired	MEADO000.2KN	233	impaired
Beaver Creek Lower	impaired	PLUMB000.3KN	251	impaired
Beaver Creek Lower	impaired	GRASS000.3KN	335	impaired
HUC12 Name	2018 303 d list	Station ID	Fall 2018 Geometric Mean of 5 samples in 30 days	Recreation Criteria for Coliform
Flat Creek	impaired	FLAT000.4KN	250	impaired
Flat Creek	impaired	FLAT005.6KN	381	impaired
Flat Creek	impaired	LFLAT000.3KN	297	impaired
Flat Creek	impaired	LFLAT005.9KN	747	impaired
Bull Run Creek Lower	impaired	BULLR016.2KN	258	impaired
Beaver Creek Lower	impaired	BEAVE024.7KN	337	impaired
Beaver Creek Upper	impaired	BEAVE037.0KN	1020	impaired
Fort Loudon Lake Upper	impaired	GOOSE000.8KN	1146	impaired
Holston River Outlet	impaired	SWANP000.8KN	172	impaired
Stock Creek	impaired	GRAND000.5	195	impaired
Ten Mile Creek	impaired	SINKI002.1KN	85	meets standard
Clinch River-Conner Creek	Unassessed	CONNE000.1KN	212	impaired
Beaver Creek Lower	impaired	BEAVE003.5KN	142	impaired
HUC12 Name	2019 303 d list	Station ID	Fall 2019 Geometric Mean of 5 samples in 30 days	Recreation Criteria for Coliform
Beaver Creek Upper	impaired	BEAVE037.0KN	322	impaired
Flat Creek	impaired	FLAT000.4KN	212	impaired
Flat Creek	impaired	FLAT005.6KN	374	impaired
Stock Creek	impaired	GUNN_G0.5KN	678	impaired
Little River-Roddy Branch	impaired	HOGSK000.1KN	313	impaired
Flat Creek	impaired	LFLAT000.3KN	388	impaired
Flat Creek	impaired	LFLAT005.9KN	710	impaired
Little River-Roddy Branch	impaired	RODDY000.6BT	516	impaired
Little River-Roddy Branch	impaired	ROSEB000.6KN	349	impaired
Holston River-Clift Creek	impaired	ROSEB002.4KN	336	impaired
Holston River-Clift Creek	impaired	ROSEB006.2KN	803	impaired