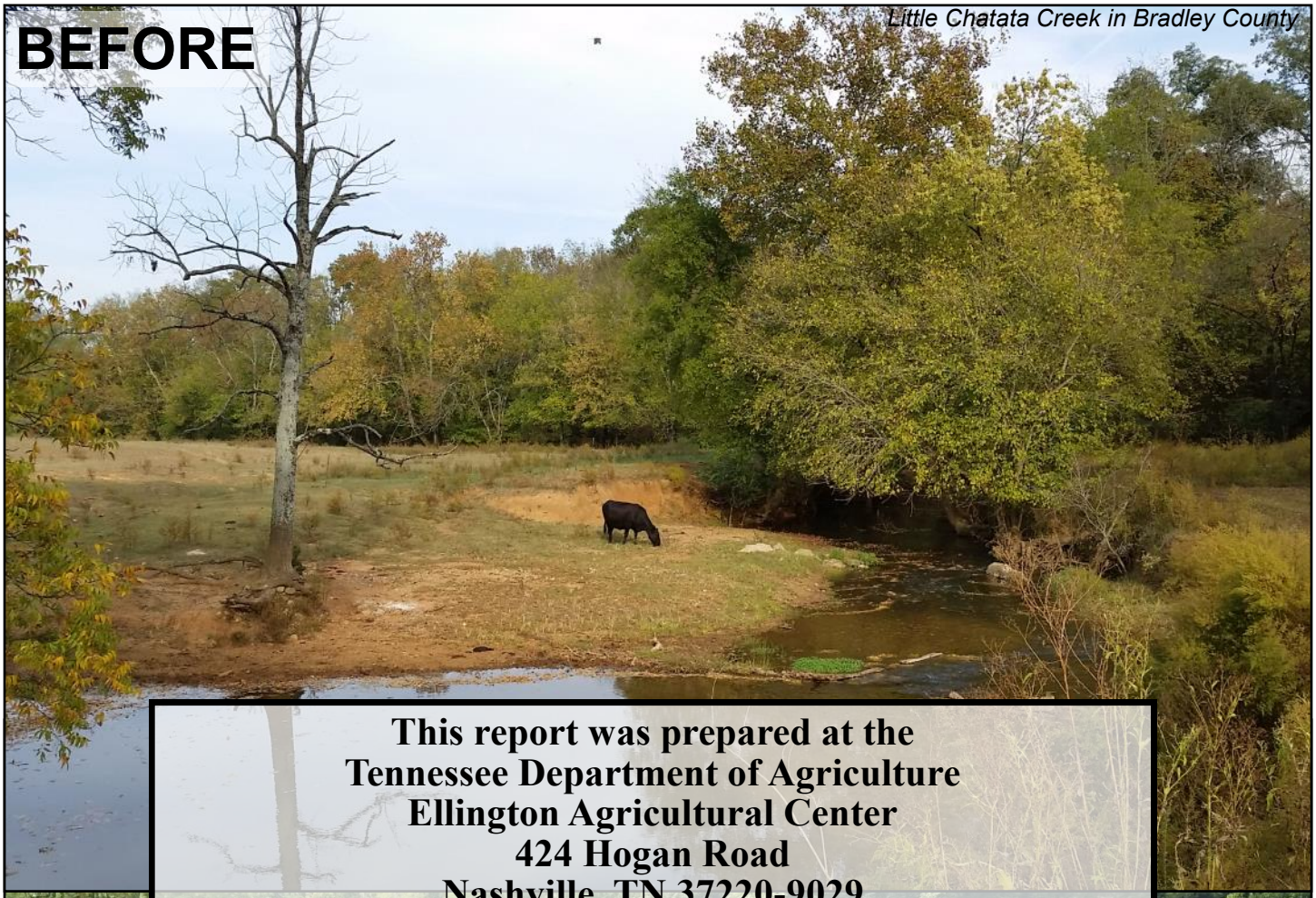
State of Tennessee's Clean Water Act (CWA) Section 319 Nonpoint Source Grant Program Annual Report—FY2023

TENNESSEE DEPARTMENT OF AGRICULTURE
LAND & WATER STEWARDSHIP SECTION

Submitted to USEPA, Region IV - December 21, 2023

RESTORING...PROTECTING...TENNESSEE'S WATER RESOURCES



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Gooflettsville WaterFest in Sumner County


Pleasant Run Creek in Giles County

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Acronyms

Ac	Acre
AMD	Abandoned Mineland Drainage
ARCF	Agricultural Resources Conservation Fund
ARP	American Rescue Plan
BFEC	Brushy Fork Environmental Consulting, Inc.
BMP	Best Management Practice
CRC	Cumberland River Compact
CWA	Clean Water Act
E. coli	Escherichia coli
EQIP	Environmental Quality Incentives Program
FFY	Federal Fiscal Year
FSA	Farm Services Agency
FTE	Full Time Equivalent
GESA	Governor's Environmental Stewardship Awards
GIS	Geographic Information System
GRTS	Grants Reporting and Tracking System
HOA	Home Owners Association
HUAP	Heavy Use Area Protection
HUC	Hydrologic Unit Code
lbs	Pounds
MOU	Memorandum of Understanding
NPS	Nonpoint Source
NRCS	Natural Resources Conservation Service
NWQI	National Water Quality Initiative
Ph	Phase
PLET	Pollutant Loat Estimation Tool
RC&D	Resource Conservation and Development Council
SETN RC&D	Southeast Tennessee Resource Conservation & Development
SFY	State Fiscal Year
STEM	Science, Technology, Engineering, and Mathematics
STEPL	Spreadsheet for Estimating Load Reduction
SWCD	Soil and Water Conservation District
TDA	Tennessee Department of Agriculture
TDEC	Tennessee Department of Environment and Conservation
TEC	Tennessee Environmental Council
TMDL	Total Maximum Daily Load
TN	Tennessee
TN-NPS	Tennessee Nonpoint Source Program
TSU	Tennessee State University
USDA	United States Department of Agriculture
USGS	United States Geological Survey
USEPA	United States Environmental Protection Agency
UT	University of Tennessee
yr	Year

Executive Summary

Introduction

The Tennessee Department of Agriculture (TDA) manages the Nonpoint Source Program (aka, 319 Program) in Tennessee with approval and oversight of the US Environmental Protection Agency (USEPA). This federal program provides funds to states, territories and Indian tribes for installing Best Management Practices (BMPs) to stop NPS pollution; providing training, education, and demonstrations; and monitoring water quality.

The Tennessee Nonpoint Source Program (TN-NPS) is non-regulatory and promotes voluntary, incentive-based solutions. The program is a cost-share program, meaning that it pays for 60% of the cost of a project. It is the responsibility of the grantee to provide the remaining 40%, usually in cash and "in-kind" services. While the 319 Grant is the primary focus of this Annual Report, it is important to note that the TN-NPS extends beyond the USEPA grant; Tennessee funds additional projects under State-funded programs such as the Agricultural Resources Conservation Fund (ARCF). Together, the goal of the TN-NPS program is restore impaired waterbodies, prevent decline of high-quality waterbodies, and promote education of non-point source issues.

Notable Accomplishments

In federal fiscal year (FFY) 2023, 118 practices were installed by grantees with the assistance of Section 319 funds. The most common practices installed by TDA partners in FFY2023 include septic system repairs, heavy use areas, watering facilities, fences, and pipelines. Similar to FFY2022, in FFY2023, $1,341,100 was awarded to watershed projects, and $178,273 was awarded to education/outreach projects,

The overall estimated load reduction for nitrogen, phosphorus, and sediment decreased in FFY2023 from FFY2022. Nitrogen, phosphorus, and sediment loads were reduced by an estimated 21,246.8 pounds, 5,834.9 pounds, and 2,978.3 tons, respectively.

The Division of Forestry conducted over 700 water quality site visits for forestry and silviculture businesses throughout the State in State Fiscal Year (SFY) 2023 with financial support from the TN-NPS program.

A Success Story was developed and submitted to USEPA in November, 2022 for Lytle Creek in Rutherford County. As of the date of this report, the Success Story has been accepted by both USEPA Region 4 and Headquarters, and is awaiting publication. A copy of the approved Success Story can be found in Appendix C.

The TN-NPS conducted the Annual Participant Survey in the Summer of 2023, with much better participation than FFY2022. The results indicated that participants would like to see additional funding for outreach activities, and a larger online presence by TN-NPS would be beneficial. A summary of the results of the Annual Participant Survey can be found in Appendix D.

In FFY2023, Lick Skillet Farm, supported by TDA's Agricultural Resources Conservation Fund (ARCF), won the Governor's Environmental Stewardship Awards (GESA) for Agriculture and Forestry. The GESA Awards are "presented to individuals and organizations making significant contributions to the protection and improvement of our natural resources and wildlife."

Tennessee experienced an extreme drought through a large portion of FFY2023. The drought created challenges for agricultural producers, as well as stressing vegetation planted in support of rain gardens, riparian forested buffers, and other practices.

One of TN-NPS's CWA Section 319 subrecipients, the Tennessee Environmental Council (TEC), completed a documentary film detailing their conservation efforts to restore Grassy Branch (a tributary of Rutherford Creek). The documentary was chosen as an official selection of the 2023 Tennessee International Indie Film Festival held in Franklin, Tennessee.

FFY2023 Program Highlights

- ***Funded $1,341,100 in watershed projects and $178,273 in statewide/ education/ outreach projects for FFY2022.***
- ***118 BMPs were implemented in FFY2023.***
- ***One Success Story , for Lytle Creek, was submitted and approved by USEPA.***
- ***Nitrogen, phosphorus, and sediment loads were reduced by an estimated 21,246.8 pounds, 5,834.9 pounds, and 2,978.3 tons, respectively.***

Overview and Authority

The Tennessee Department of Agriculture (TDA) manages the 319 Nonpoint Source Program with approval and oversight of the US Environmental Protection Agency (USEPA). The Tennessee—Nonpoint Source Program (TN-NPS) applies for and is awarded a grant from the USEPA each year in order to implement this program. This Annual Report is required under a provision of each year's grant award. Specifically, the report fulfills the requirements of Section 319(h)(11) of the federal Clean Water Act. This report is written each year to inform the public, the USEPA, and ultimately the U.S. Congress of the state's progress in the area of reducing nonpoint source pollution in Tennessee. While this report should not be construed to be a complete description of all TN-NPS program activities, it does describe the most important features of the program within the federal fiscal year (FFY) 2023 (i.e., October 1, 2022– September 30, 2023).

Today, nonpoint source (NPS) pollution is the nation's largest source of water quality problems. It's the main reason that approximately 40 percent of our surveyed rivers, lakes, and estuaries are not clean enough to meet basic uses such as fishing or swimming. NPS pollution occurs when water runs over land or through the ground, picks up pollutants, and deposits them into rivers, lakes, and coastal waters or introduces them into ground water. NPS pollution is widespread because it can occur any time activities disturb the land or water.

To address this diffuse type of pollution, congress established the Nonpoint Source Program, funded by the USEPA through Section 319 of the Clean Water Act. The Tennessee Department of Agriculture administers the Nonpoint Source Program in Tennessee on behalf of USEPA. This program provides funds to states, territories and Indian tribes for installing Best Management Practices (BMPs) to stop NPS pollution; providing training, education, and demonstrations; and monitoring water quality.

The TN-NPS is non-regulatory and promotes voluntary, incentive-based solutions. The program is a cost-share program, meaning that it pays for 60% of the cost of a project. It is the responsibility of the grantee to provide the remaining 40%, usually in cash and "in-kind" services. It primarily funds two types of projects:

1. **Watershed Restoration Projects** improve an impaired waterbody, or prevent a non-impaired water from becoming placed on the *Lists of Impaired and Threatened Waters* (formerly the 303(d) List). Projects of this type receive highest priority for funding. All projects involving BMPs must be based on an approved "Watershed Based Plan".

2. **Educational Projects** funded through TN-NPS raise awareness of practical steps that can be taken to eliminate NPS pollution. Projects funded can either have a statewide, general public aim or can focus in on local, targeted audiences with specific messages.

No funds from the TN-NPS are given directly to individual landowners. All grant money is awarded to organizations/entities that administer and oversee the local project. Eligible applicants include non-profit organizations, local governments, state agencies, soil conservation districts, and universities. These organizations then can enter into work agreements with individual landowners to reimburse them for work done on their land. All payments made with grant funds are on a reimbursement basis.

Example of an Educational Project—River Friendly Farms

Example of a Watershed Restoration Project—Streambank Stabilization in Progress, Montgomery County

Program Highlights from FFY2023

The Tennessee Department of Agriculture (TDA) relies on the cooperation of stakeholders, partnerships, and local landowner support to implement many components of the Tennessee Nonpoint Source Program (TN-NPS) statewide. The information contained in this Annual Report highlights many of the accomplishment that have been collectively achieved by these collaborative efforts during FFY2023.

SIGNIFICANT PROGRAM MILESTONES IN FISCAL YEAR 2023:

Best Management Practices Installation for FFY2023

In FFY2023, 118 BMPs were installed by our partners with assistance from CWA Section 319 grant funds (from all open grants). The most common BMPs installed (from most to least) were septic system repairs, heavy use areas, watering facilities, fences (cross fences for rotational grazing and exclusion fences), and pipelines. Both the number of practices and the estimated pollutant load reduction decreased from FFY2022. The Agriculture Resources Conservation Fund (ARCF), Tennessee's State-funded nonpoint source grant program, also saw a downward trend from the previous year. Possible contributing factors include a scarcity of labor and the increasing costs for supplies.

Tennessee Department of Agriculture—Division of Forestry Partnership

Tennessee's ARCF program provides funding to TDA's Division of Forestry to support a Water Quality Forester and financially assist with the forestry/silviculture-based water quality inspections. In State Fiscal Year (SFY) 2023, the Division of Forestry conducted over 700 site visits. In addition, the Division updated *Guide to Forestry Best Management Practices in Tennessee*.

Success Stories / Impaired Waters Delistings

A Nonpoint Source Success Story for Lytle Creek in Rutherford County was developed and submitted USEPA Region on January 6, 2023. This Success Story was submitted as Tennessee's first story to follow the new Story Map format. Lytle Creek was designated as impaired in Tennessee's 2004 Clean Water Act (CWA) section 303(d) list due to poor biological survey results. The Tennessee Environmental Council, Rutherford County Soil & Water Conservation District (SWCD), and landowners utilized funding from CWA section 319 and the TDA's ARCF to exclude livestock, replant riparian areas, stabilize streambanks and install a rain garden. In 2022, 10.1 miles of Lytle Creek headwaters were delisted for alteration in stream-side or littoral vegetative covers and siltation/sedimentation due to pasture grazing on Tennessee's List of Impaired and Threatened Waters. The final draft story (approved, but not published, as of the date of this report), can be found in Appendix C.

Riparian vegetation along Lytle Creek established after the installation of exclusion fencing (right bank)

Annual Participant Survey

The Annual Participant Survey was conducted in the Summer of 2023 to evaluate participants' opinion of the 319 Grant program. Unlike FFY2022, participation in the survey this year was in excess of 40 percent of individuals that received the questionnaire. One of the main takeaways of the survey was that the development of Watershed Based Plans continues to be an obstacle for partner organizations. TN-NPS staff continue to offer a Watershed Based Plan Development Workshop; and, a CWA Section 106 grant supplied by the Tennessee Department of Environment and Conservation (TDEC) to partner agencies is being utilized to write multiple plans to guide implementation projects.

ARCF-Funded Project Wins Governor's Environmental Stewardship Award

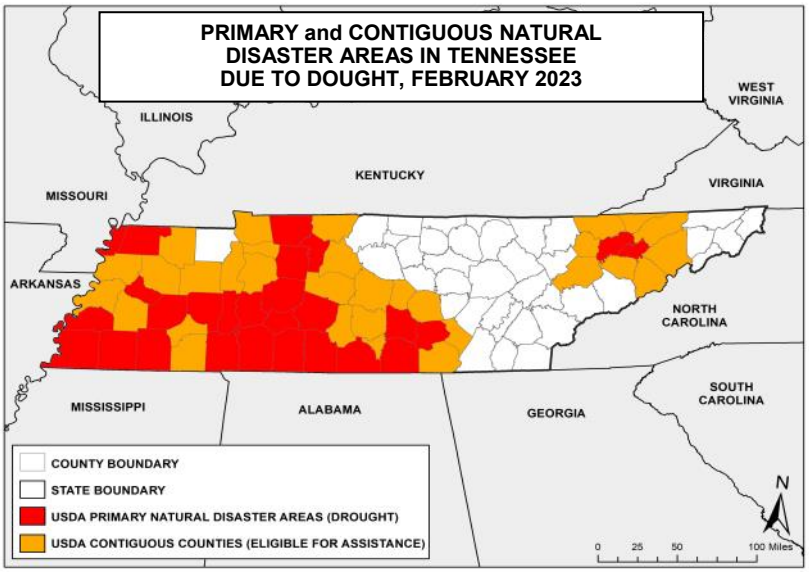
In FFY2023, Lick Skillet Farm, supported by TDA's ARCF, won the Governor's Environmental Stewardship Awards (GESA) for Agriculture and Forestry. Located in Jefferson County, Lick Skillet Farm has been in operation since 1919, where four generations have worked towards restoring the land and practicing regenerative agriculture. Per excepts from the 2023 GESA presentation, Lick Skillet Farm *become what is believed to be the first U.S. farm to receive carbon credits generated by planting trees as part of an integrated livestock-agroforestry plan... Additional programs implemented at Lick Skillet Farm over the last five years are the use of intensive multi-species grazing; prescribed burning to establish native grasses and pollinators; integrated pest management using birds instead of pesticides;achievement of 100 percent grass finished cattle and sheep and 100 percent no-corn-no-soy pastured pigs and poultry; a focus on air and water quality and soil health which required adopting a 100 percent no-till policy; extensive use of annuals for cover crops to sequester more carbon; installation of two commercial-scale solar energy installations and geothermal energy; replacement of synthetic fertilize inputs with a commercial-scale composting project; installation of the community's only solar-powered electric vehicle charging station free to the public; and education to the local K-6 elementary school which visits the farm at least once a year.*

Top left, center, and right: Skillet Farm in Jefferson County. Photographs courtesy of TDEC.

Tennessee Challenged with Drought

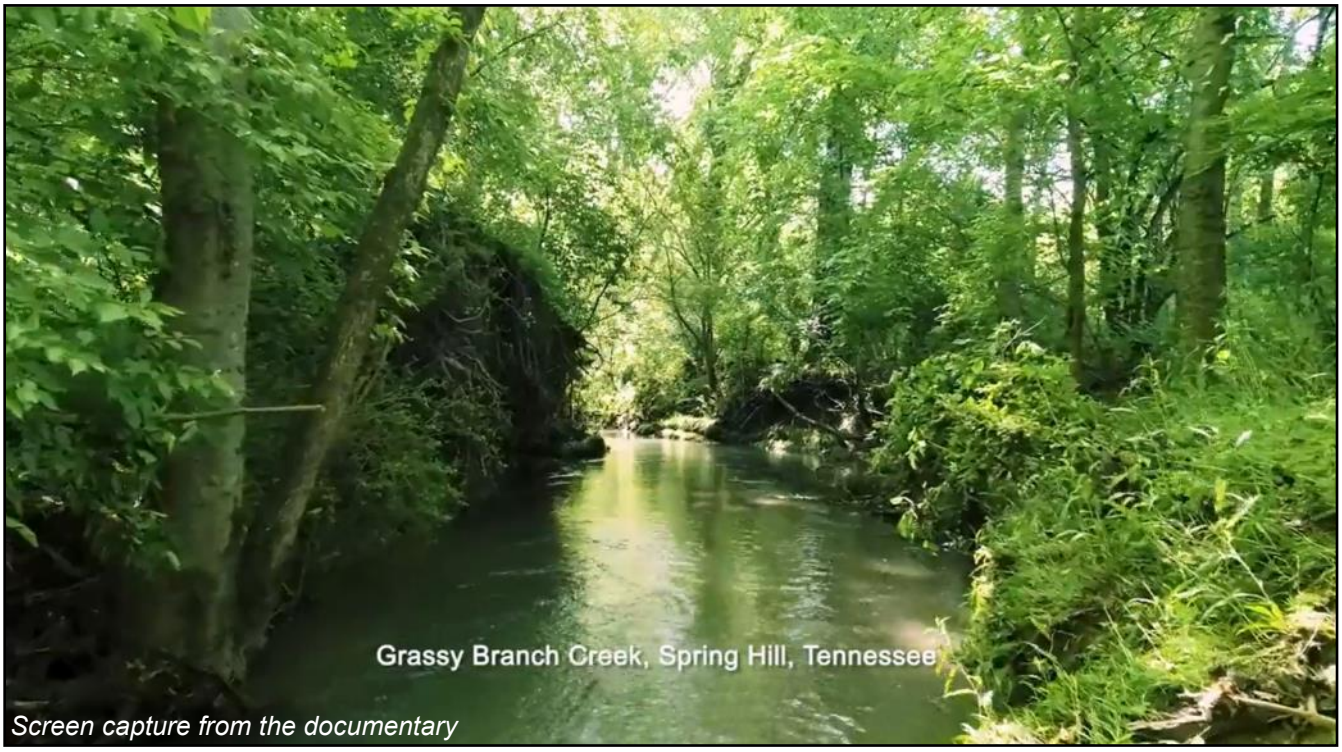
This year, Tennessee has been severely tested by drought, which made earthwork projects difficult and caused financial hardship for agricultural cooperators. In the February of 2023, USDA designated 27 Tennessee counties as "primary natural disaster areas" due to drought. The drought created challenges for agricultural producers, as well as stressing vegetation planted in support of rain gardens, riparian forested buffers, and other practices. As of the date of this report, almost 90 percent of Tennessee remains in moderate to exceptional drought (National Oceanic and Atmospheric Administration, National Integrated Drought Information System accessed at www.drought.gov/states/Tennessee).

Garrison Creek in Rutherford County, completely dry in Fall, 2023



Conservation in the Spotlight: *Cleaning Upstream—The Restoration of Grassy Branch Creek* Documentary

Also in FFY2023, one of TN-NPS's subrecipients, the Tennessee Environmental Council (TEC), completed a documentary film chronicling their conservation efforts to restore Grassy Branch (a tributary of Rutherford Creek). The documentary includes interviews with local experts, and illustrates (through historic aerial imagery) the improvements made to the riparian habitat in the last two decades. In addition, the documentary was an official selection of the 2023 Tennessee International Indie Film Festival held in Franklin, Tennessee.



Screen capture from the documentary

Attendance at National and Regional Nonpoint Source Meetings

- Heidi McIntyre-Wilkinson and Doug Taylor presented at the Shelby County Agriculture Education Day at the Agricenter International in Memphis, Tennessee on November 30, 2022.
- Heidi McIntyre-Wilkinson attended the Duck River Symposium in Chapel Hill, Tennessee on December 7, 2022.
- Sam Marshall represented the state of Tennessee at the Hypoxia Task Force meeting in Washington, D.C. - December 14-16, 2022. He presented on the implementation of Tennessee's Nutrient Reduction Strategy during the public portion of the meeting.
- John McClurkan met virtually with the States of North Carolina and Oklahoma to discuss the program funds to watershed funds 50/50 ratio for Section 319 grants.
- John McClurkan presented at the Tennessee Association of Conservation Districts (TACD) Convention in Franklin, TN on February 19—21, 2023.
- Sam Marshall attended the West Tennessee Water Resources Symposium in Jackson, TN - February 22-24, 2023.
- Heidi McIntyre-Wilkinson presented at the Tennessee Conservation District Employee Association Spring Meeting on April 4—6, 2023 in Murfreesboro, Tennessee.
- John McClurkan attended the Tennessee Nutrient Reduction Task Force meeting in Murfreesboro, TN in April, 2023.
- Heidi McIntyre-Wilkinson presented at the Water Quality for Cattlemen Field Day in Summertown, Tennessee on April 29, 2023.
- Heidi McIntyre-Wilkinson and Macee Fredlake tabled at the Davidson County SWCD Farm Day in Nashville, Tennessee on May 2, 2023.
- John McClurkan attended USDA State Technical Advisory Committee meetings in May and August, 2023.
- Heidi McIntyre-Wilkinson and Macee Fredlake tabled at the Goodlettsville WaterFest in Goodlettsville, Tennessee on June 23, 2023.

FFY2019 Grant Closeout

The FFY2019 was closed-out in FFY2023. Approximately $10,000 of the awarded funds were left unspent from the FFY2019 grant at end of the contract term. Additional details can be obtained from the Closeout Report submitted to USEPA on December 31, 2023.

FFY2023 Grant Awarded

The TN-NPS released an RFP on September 14, 2022 to solicit applicants for the 319 Grant award for FFY2023. Proposals (with accompanying watershed based plans, as applicable) were due by December 1, 2022, and seven applications were received. Including TDEC's $600,000 monitoring funding request, applicants requested a total of $2,135,229 in grant funding. The amount requested exceeded the amount of funding available at $1,392,193. Funding was provided for all project proposals submitted in FFY2023. The FFY2023 grant, totaling $2,682,000, was awarded on September 18, 2023. The following table provides a list of projects funded from the FY2023 grant as well as the amount of grant funding each project was awarded.

Table 1: FFY2023 Grant Awards

Name of Applicant	Name of Project	319 Grant Money Allocated	Funding Type
City of Goodlettsville	Madison Creek and Pattens Branch Streambank Stabilization	$160,341	Watershed
Knox County	Turkey Creek Watershed Initiative	$205,500	Watershed
Morgan County SWCD	Crooked Fork Restoration Project	$225,000	Watershed
TDEC	TDEC Water Quality Monitoring of NPS-Impaired Streams	$150,000	Watershed
Tennessee Wildlife Federation	Bull Run Creek Streambank Stabilization Project	$311,589	Watershed
University of Tennessee—Knoxville	Innovative Stormwater Management for Tennessee: A Training Program	$27,763	Program
WaterWays	Reducing Nonpoint Source Pollution in Mountain Creek Watershed, Phase 3	$312,000	Watershed
	TOTAL	**$1,392,193**	

Total NPS Spending in FFY2023

The spending in FFY2023 decreased slightly from FFY2022. Watershed restoration spending decreased by over $500,000 from the previous year; this decrease may be due to a number of factors such as canceled projects (due to insufficient labor), delays due to extreme weather, and fewer active watershed restoration projects. Both management and education project costs increased in FFY2023 as compared to FY2022. The total amount of 319 grant funds spent in FFY2023 was $2,356,576.55, which was an overall decrease of .approximately $400,000 (FFY2022 total spending was $2,765,972.75).

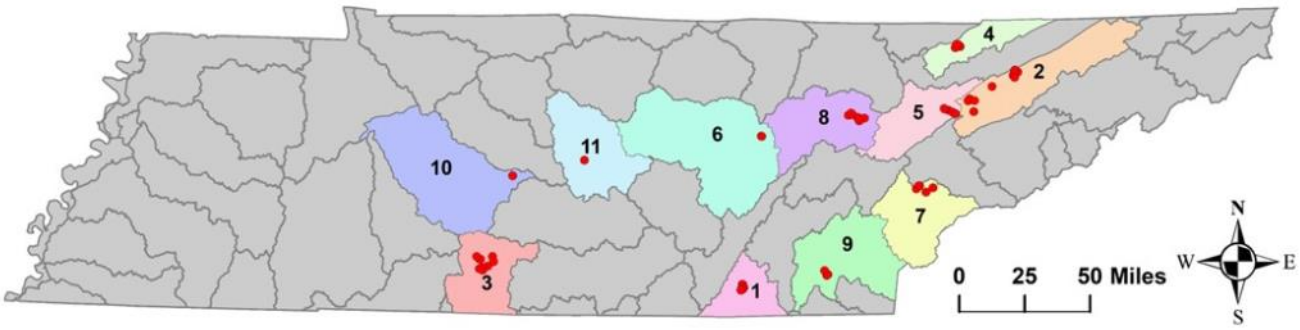
Program Management expenditures consist of salaries and benefits for 13.21 Full-Time Equivalents (FTEs), travel, supplies, and indirect costs originating from the TN-NPS program. The personnel costs for 1.10 FTE is matched by the State.

Table 2: 319 Program Spending in Tennessee – FFY2023

Nature of Expense	Amount of 319 Dollars Spent
NPS Program Management	**$1,429,400.12**
Watershed Restoration Projects	**$867,111.93**
Educational Projects	**$60,065.50**
TOTAL:	**$2,356,576.55**

The following two figures illustrate the spending from FFY2023. Figure 1 is a geographical representation of where Section 319 grant funds were spent in FFY2023 across the state on best management practices from watershed restoration projects by watershed (8-digit hydraulic unit code). Please note that each marker may represent more than one BMP on a particular site.

FIGURE 1: 319 FUNDS SPENT FOR BMPs PER WATERSHED IN FFY2023 (OCTOBER 1, 2022 - SEPTEMBER 30, 2023)



WS No.	Watershed Name	HUC8 No.	Total Incentive Payments in WS
1	Lower Tennessee River	06020001	$181,956.00
2	Holston River	06010104	$117,254.00
3	Lower Elk River	06030004	$79,202.00
4	Powell River	06010206	$61,760.00
5	Lower Clinch River	06010207	$51,862.00
6	Caney Fork River	05130108	$44,544.00

WS No.	Watershed Name	HUC8 No.	Total Incentive Payments in WS
7	Little Tennessee River	06010204	$34,298.00
8	Emory River	06010208	$29,708.00
9	Hiwassee River	06020002	$28,859.00
10	Lower Duck River	06040003	$14,813.78
11	Stones River	05130203	$4,375.00

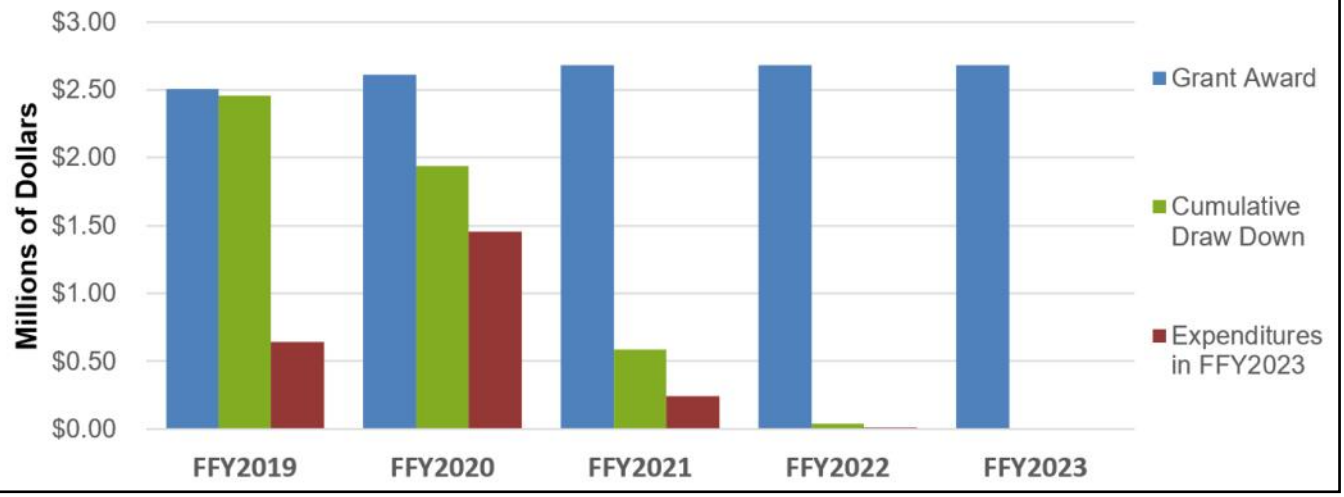
LEGEND

- BMPs (Please note: each marker may indicate more than one BMP installed at that location)
- HUC8 Watershed Boundaries for Watersheds with 319 BMPs installed in FFY2023
- HUC8 Watershed Boundaries (no 319 BMPs installed in FFY2023)

Tennessee Department of Agriculture
November 14, 2023

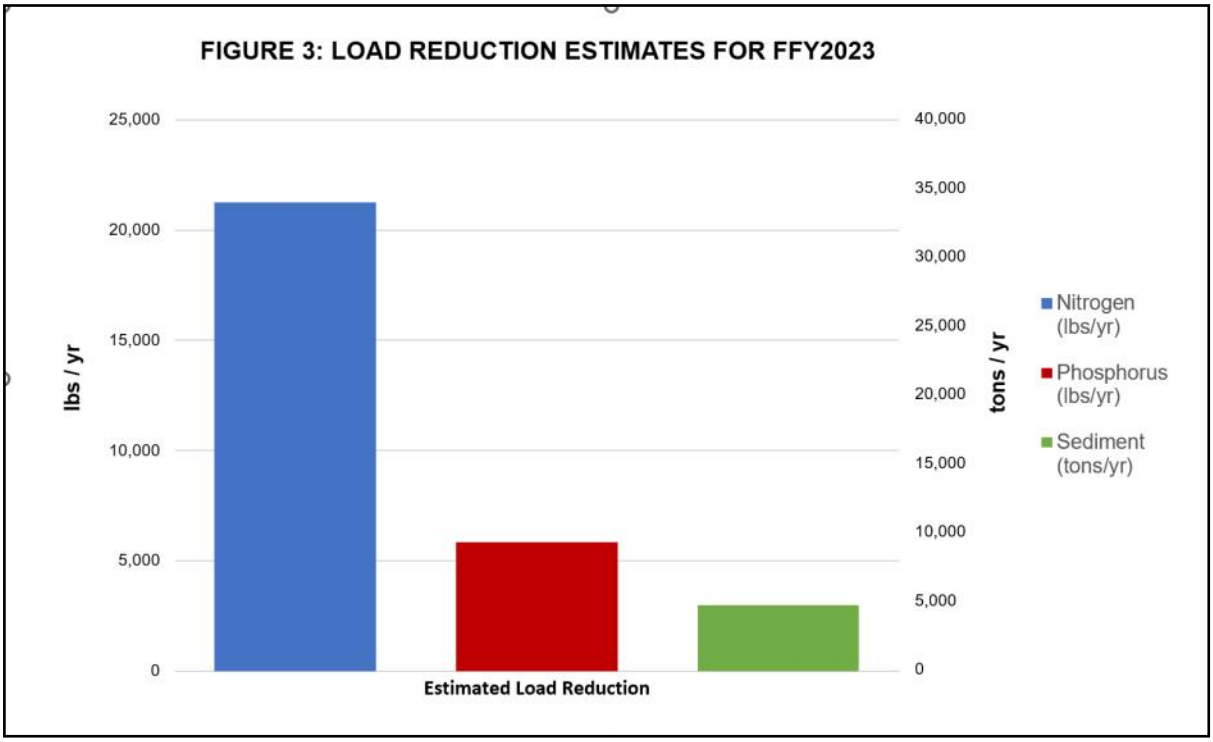
Figure 2 below provides a breakdown of CWA 319 spending, by grant year. The red bars show the amount of grant money spent in FFY2023 from each of our active grants. The green bars show the cumulative amount spent or drawn-down from each of our active grants. Each subsequent grant year has less and less money spent as each year is more and more recent, but the TN-NPS program has a strong history of spending all of the money from each grant before it is closed out. Blue bars represent the original amount of each grant award.

FIGURE 2: EXPENDITURE HISTORY OF CWA SECTION 319(h) GRANTS FROM FFY2019 TO FFY2023 FOR THE STATE OF TENNESSEE



Nitrogen, phosphorus, and sediment are three of the most common impairments for Tennessee; thus, pollutant load reductions are key to removing stream reaches and bodies of water from the *Lists of Impaired and Threatened Waters*. Since delisting streams is the top priority of the Tennessee NPS program, these estimates help track interim progress towards that goal. Overall success is determined by the number of stream miles or lake acreage that is removed from the *Lists of Impaired and Threatened Waters* as they again meet the State standards for their designated uses. Figure 3 shows our estimated load reductions for nitrogen, phosphorus, and sediment from all projects with BMPs for FFY2023, based on the 118 practices installed by partners. Estimates were derived using the Spreadsheet Tool for Estimating Pollutant Loads (STEPL) Model or the Pollutant Load Estimation Tool (PLET). In FFY2023, estimated load reduction (especially phosphorus) was lower than the previous year, partly due to fewer practices being implemented by grantees. The load reduction estimates for FFY2023 are 21,246.8 pounds of nitrogen, 5,834.9 pounds of phosphorus, and 2,978.3 tons of nitrogen.

The data was derived from Grants Reporting and Tracking System (GRTS) entries and the State of Tennessee's, Land & Water Stewardship database query, based on the date of payment, dating from October 1, 2022 to September 30, 2023. **NOTE: Data units for sediment are in tons/year (yr).**



West Fork Stones River—Rutherford County

GUIDING PRINCIPLES

The successful administration of any program requires some level of planning and the establishment of goals. The TN-NPS's new Management Program Document is part of that process, and one significant aspect of that plan is the goals that have been set. Both long term goals and annual goals have been identified, all of which correspond to the four elements of TN-NPSs overriding mission statement.

TN-NPS Program Mission Statement

The mission of the TN-NPS is to: measurably reduce nonpoint source pollution in Tennessee, measurably improve Tennessee's water quality, continuously strengthen and expand partnerships, and increase the water resources stewardship of Tennessee's citizens.

The specific long and short term goals will be the basis of all future NPS program projects in Tennessee. The TN-NPS will tie each future project to specific long term goals and annual milestones. These goals are fully described in Section 3 (*Strategy for Addressing Nonpoint Source Pollution Issues*) of the new Management Program Document.

2020 - 2024 TN-NPS Long Term Goals

Long Term Goal No. 1:
Restore impaired water bodies (i.e., those on the *Lists of Impaired and Threatened Waters**) by implementing best management practices (BMPs) that address nonpoint source pollution.

Long Term Goal No. 2:
Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various audiences.

Long Term Goal No. 3:
Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.

Long Term Goal No. 4:
Track interim progress towards restoration of impaired water bodies.

Long Term Goal No. 5:
Protect unimpaired/high quality waters (i.e., those not on the list of impaired waters) by implementing appropriate BMPs where warranted.

Long Term Goal No. 6
Fulfill all obligations under grant award agreement with USEPA annually.

* *The State of Tennessee's* List of Impaired and Threatened Waters *is now used in lieu of the 303(d) list, as it includes all impaired waters, not only those waters for which a Total Maximum Daily Load (TMDL) still requires development.*

Status of All Projects Active in FFY2023—as of 11/08/23 (balance)

Grantee Name—Project Name	Amount Awarded ($)	Balance ($)	Expiration Date
Appalachian RC&D—*Gap Creek-Watauga River Restoration Project*	$475,000.00	$475,000.00	07/31/2025
Austin Peay State University—*Project WET*	$16,500.00	$0.00	12/31/2022
Blount County SWCD—*Baker & Centenary Creeks Restoration , Phase (Ph.) IV*	$172,000.00	$163,121.86	08/31/2026
Blount County SWCD—*Pistol Creek Watershed Restoration Initiative, Ph. II*	$462,000.00	$462,000.00	08/31/2026
Blount County SWCD—*Watershed Learning Laboratory*	$15,090.00	$10,873.27	07/31/2025
Caribbean SEA (WaterWays!)—*Reducing Non-point Source Pollution in Shoal Creek and Middle Creek Watersheds*	$280,000.00	$195,500.00	07/31/2023
Claiborne County SQCD—*Davis Creek/Cawood Branch Watershed Restoration Project*	$115,000.00	$38,414.00	07/31/2025
Clinch-Powell RC&D—*Clinch-Powell Rivers Restoration*	$205,500.00	$163,387.85	07/31/2024
Cocke County Soil SWCD—*Del Rio Restoration*	$79,000.00	$79,000.00	07/31/2024
Cumberland River Compact—*Harpeth River-Spencer Creek Watershed Restoration Project, Ph. I*	$163,000.00	$163,000.00	07/31/2025
Cumberland River Compact—*Oak Grove/West Fork Red River Restoration Project*	$157,500.00	$130,040.45	07/31/2024
Cumberland River Compact—*River Friendly Farms*	$42,130.00	$0.00	07/31/2023
Giles County SWCD—*Pigeon Roost Creek Watershed Project*	$325,000.00	$84,766.94	07/31/2023
Grainger County SWCD—*Richland Creek Watershed Improvement Project*	$228,385.43	$134,186.67	08/31/2024
Green Interchange, Inc.—*Spring Creek Restoration Plan Implementation – Spring Creek Restoration Project*	$104,000.00	$104,000.00	08/31/2026
Knox County—*Beaver Creek, Ph. III*	$115,100.00	$42,959.14	07/31/2024
Knox County SWCD—*Flat Creek Restoration, Ph. II*	$95,000.00	$56,943.13	07/31/2024
Monroe County SWCD—*Bat Creek Restoration Project*	$210,000.00	$2.00	07/31/2023
Morgan County SCD—*Crooked Fork Restoration Project*	$224,000.00	$45,089.03	07/31/2024
Obed Watershed Community Association—*Pistol Creek Project*	$80,000.00	$41,958.86	07/31/2023
Obed Watershed Community Association—*Wilkerson Creek—Frey Branch Restoration Project*	$60,000.00	$3,124.35	07/31/2023
Southeast Tennessee RC&D—*Conasauga River Tributaries Project, Ph. 3*	$165,00.00	$160,000.00	08/31/2026
Southeast Tennessee RC&D—*Hiwassee River Tributaries Project, Ph. 2*	$200,000.00	$159,171.68	07/31/2025
Southeast Tennessee RC&D—*Sequatchie Cave State Natural Area and Owen Spring Branch*	$155,000.00	$2,110.00	07/31/2024
TN Dept of Environment & Conservation/Water Resources—*Water Quality Monitoring of NPS Impaired Streams 2021*	$180,000.00	$63,601.28	07/31/2025
TN Dept of Environment & Conservation/Water Resources—*Water Quality Monitoring of NPS Impaired Streams 2022*	$165,000.00	$165,000.00	08/31/2026
Tennessee Environmental Council—*Lytle Creek Phase 3 Restoration Project*	$63,100.00	$58,725.18	07/31/2025
Tennessee Environmental Council—*Rutherford Creek Phase V Restoration Plan Implementation – Grassy Branch Restoration Project*	$145,000.00	$130,187.22	07/31/2026
Tennessee Aquarium—*Enhancing Tennessee Aquarium Galleries: Watershed Education*	$65,000.00	$65,500.00	07/31/2026

Continuation of Status of All Projects Active in FFY2023

Grantee Name—Project Name	Amount Awarded ($)	Balance ($)	Expiration Date
Tennessee RC&D—*Tennessee Envirothon 2024*	$20,500.00	$20,500.00	09/30/2024
Tennessee State University—*Habitat Improvements in Urban Wetland*	$9,650.00	$9,650.00	07/31/2024
Tennessee Tech University—*Watershed-Based Non-Point Source Environmental Justice in Tennessee*	$92,273.00	$92,273.00	08/31/2026
University of Memphis—*Educate Teachers and Inspire Students to Protect Tennessee Watersheds*	$24,400.00	$23,325.29	07/31/2024
Wolf River Conservancy—*Educational Signage and Outreach for the Wolf River Greenway*	$26,000.00	$26,000.00	07/31/2025

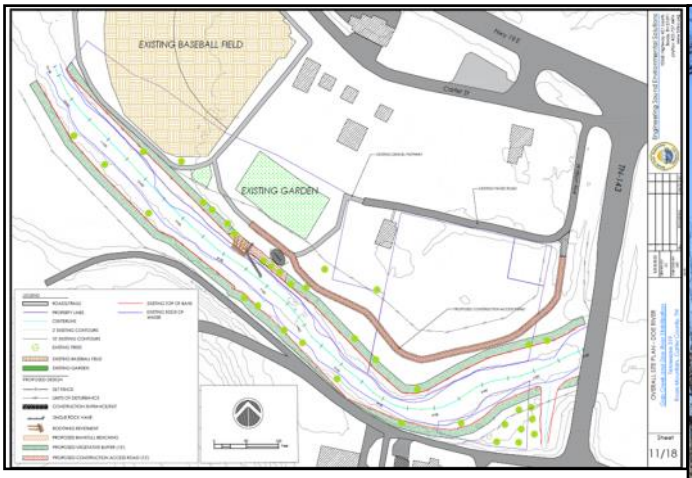
Duck River in Maury County

Project Summaries for FY2023

(In alphabetical order, by grantee)

GRANTEE: Appalachian RC&D Council
PROJECT NAME: Gap Creek—Watauga River Restoration
GRANT YEAR: FY2021
WEBSITE: www.arcd.org

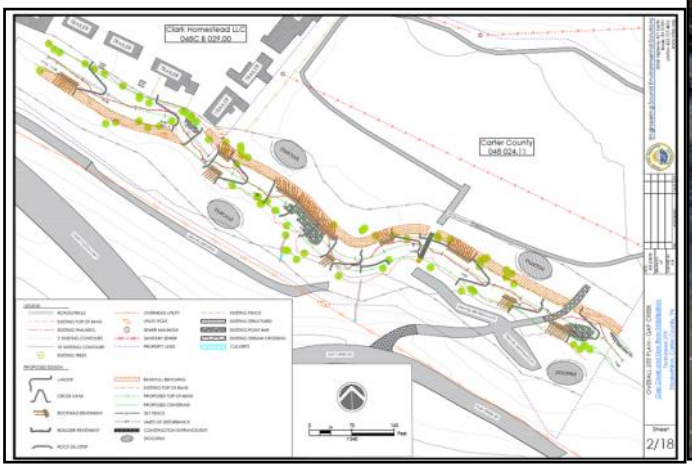
In 2023 Brushy Fork Environmental Consulting, Inc. (BFEC) worked with Carter County to flag 2 restoration sites where Section 319 work will be performed: Gap Creek Park and Doe River Roan Mountain. Two sights that were flagged in the initial phase of the project, Campbell Branch and Doe River Hampton, have been dropped from the list for the following reasons: Campbell Branch had too many site constraints to achieve a successful project in the form of limited buffer widths because of roads, parking lots, buildings. Doe River Hampton is a relatively stable site already and does not need any restoration work.



Above: Gap Creek Park Plan View

Right: Erosion Along Gap Creek

Below: Doe River Roan Mountain Plan View



The Gap Creek Park project involves approximately 1,118 linear feet of natural channel restoration. The majority landowner being Carter County. The project has been designed and permits applied for. The Tennessee Department of Environment and Conservation (TDEC) 401 individual permit application was submitted in September of 2023. The Doe River at Roan Mountain Park project involves approximately 1,250 linear feet of Doe River. Natural channel structure will be added to this section as well as over 1,200 linear feet of native riparian planting. These projects are slated for construction in the winter/spring of 2024.

GRANTEE: Blount County Soil and Water Conservation District
PROJECT NAME: Baker and Centenary Creek Restoration Initiative—Phase IV
GRANT YEAR: FY2022
WEBSITE: http://www.blounttn.org/soil/

I. Implementation of Agricultural Best Management Practices:
Two individual operators (in Blount County) representing three contracts have completed their planned practices for this reporting period.

Implemented practices included:

Practice:	NRCS Code #:	Quantity Installed:
Cross-fencing	382(G)	1,043 Feet
Pipeline (Hydrant)	516	1 Unit
Pipeline (Buried Pipe)	516	1,800 Feet
Access Road (Rehabilitation)	560	91 Linear Feet
Heavy Use Area Protection (Feed Pad)	561	1,512 Square Feet

II. Septic System Repair and Restoration for Low-income Households:
No progress this reporting period. Outreach for this aspect of grant funding has included notification to septic system installers in regard to opportunities for grant funding and installation thereof.

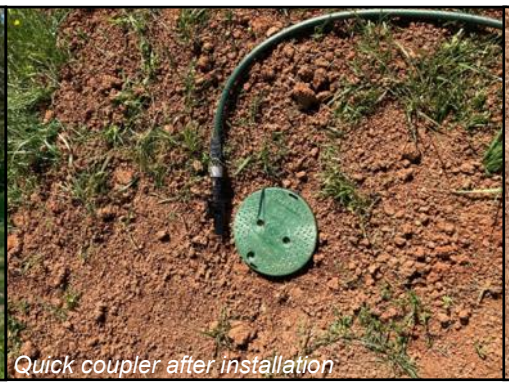
III. Correct Eroded Steep Banks along U.S. Highway 411:
This aspect of grant programming has been scheduled for September 2024.

IV: Conduct Homeowner Outreach Workshops:
No workshops were conducted for this reporting period. Workshops are currently being planned for 2024.

V: Implement Riparian/Stormwater Practices:
No practices were implemented for this reporting period. Project locations and specific practices are currently being discussed.

VI. Grant Management:
A planning meeting with the staff and board of supervisors of the Loudon County Soil & Water Conservation District was conducted on August 17, 2023. The purpose of the meeting was to provide an overview of the Baker Creek (319) Initiative.

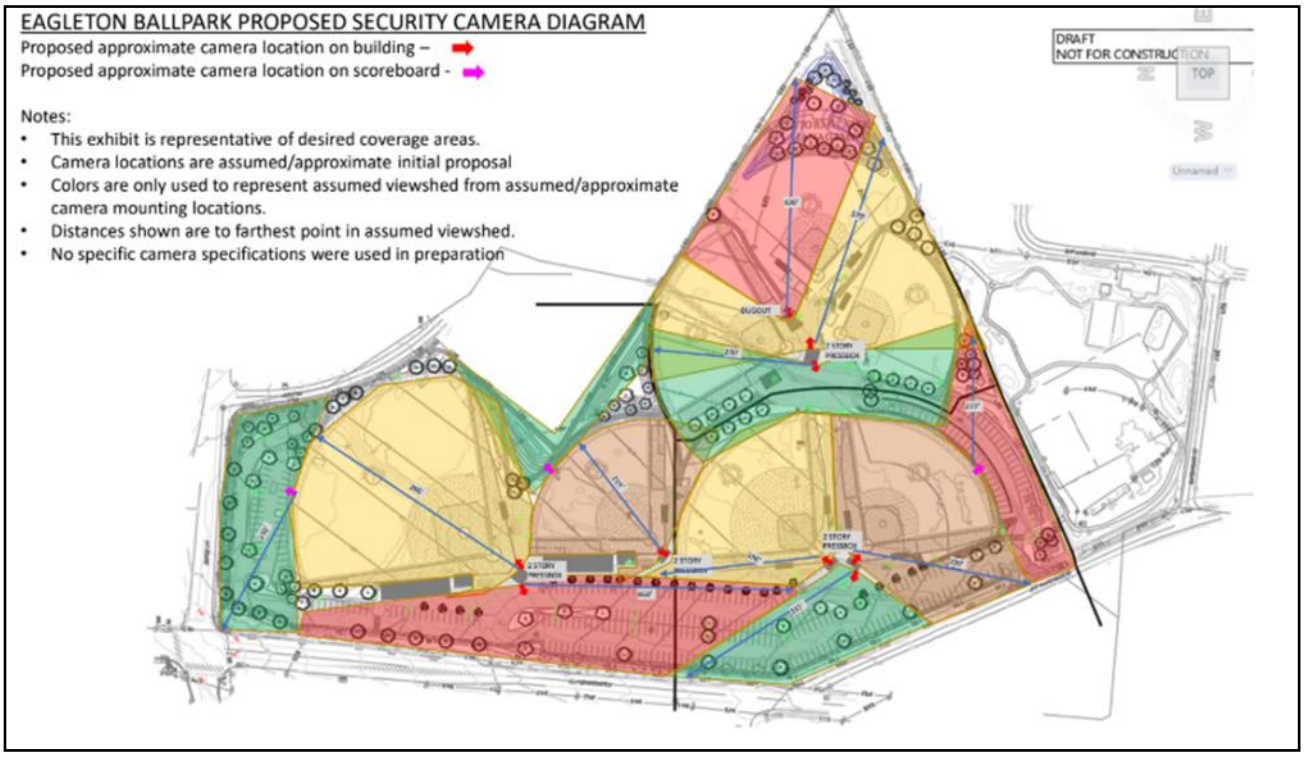

Livestock pipeline after installation


Quick coupler after installation


Frost-free waterer installation

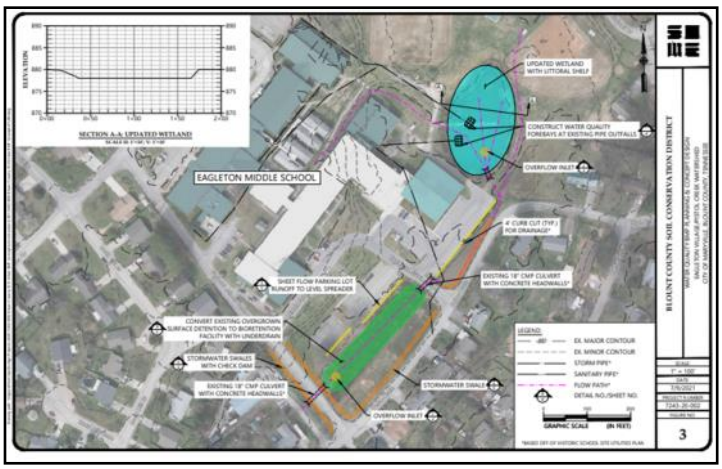
GRANTEE: Blount County Soil and Water Conservation District
PROJECT NAME: Pistol Creek Watershed Restoration Initiative—Phase II
GRANT YEAR: FY2022
WEBSITE: http://www.blounttn.org/soil/

The first few months of this grant were dedicated to planning and regaining traction on projects that had been initiated and were awaiting grant support. Among these initiatives were two stormwater infrastructure projects, three applications for the septic assistance program, and one education/outreach project at a new outdoor learning area. Stormwater infrastructure projects include working with MBI and SM&E (engineering firms) on the renovations of both Eagleton Academy and the planned Eagleton Sports Complex center located in Maryville/Alcoa. Another stormwater infrastructure project is in progress in partnership with CEC, Inc to design and implement enhancements for a large culvert spillway associated with the City of Maryville.



Above: Eagleton Sports Complex w/Green Infrastructure Design (CEC, Inc & Blount County collaboration)

Blount County Soil and Water Conservation District (SWCD) also had success in engagement with local property owners regarding the septic assistance program and by September 30th had 3 active applications for septic repairs. Finally, through this grant, Blount County SWCD was able to work with Blount County Schools to take advantage of the redesign and construction of a new stormwater basin at Eagleton Elementary. In fall 2023 this structure was enhanced in preparation to serve as a new outdoor learning area for the school.



Left: Stormwater Enhancement Planning for Eagleton Community Renovations (Academy)

GRANTEE: Blount County Soil and Water Conservation District
PROJECT NAME: Watershed Learning Laboratory
GRANT YEAR: FY2021
WEBSITE: http://www.blounttn.org/soil/

Last winter there was a slight delay in ordering supplies for the Watershed Learning Laboratory as a new space in the office was being constructed to accommodate the equipment, samples, and groups. During 2023, however, Blount County Soil and Water Conservation District (SWCD) was able to make several purchases for materials and equipment to launch the program. Purchases have supported the construction of a portable stream table activity. This activity provides a hands-on learning opportunity used to teach grades Kindergarten-12 students and the public about how water flows through watersheds. The lab also illustrates how changes in watersheds (including farms, road construction, etc.) affects water flow, erosion, and flooding. Funding has also been used to create educational signage about beaver dam levelers, which are devices that allow water to flow through beaver dams without harming the beavers or their habitat. Blount County SWCD has worked with private landowners to install several of these devices as the beaver population grows. This has been a wonderful education and outreach opportunity for the public about how to live with native species and protect infrastructure. Finally, purchases have supported the primary equipment needed to build the in-house laboratory. This space will be used to teach the public and school groups about the science behind monitoring and interpreting water quality.

Throughout 2023, the investments mentioned above have been used to engage with 380 people directly (156 children, 224 adults) and reached more than 5,000 people in broader community through newspaper stories and participation in events. This does not include several undergraduate students at Maryville College who have attended events and, were trained to lead activities at other community events. Resources supported through this grant were used to launch the educational programming, both in house and “on the road”. In 2023 alone, the District conducted **seven** children’s educational programs, **four** community engagement events, and **two** adult oriented workshops that have all included aspects of data collection, science-based information and recommendations, and theoretical concepts that support a watershed scale approach to conservation management strategies.

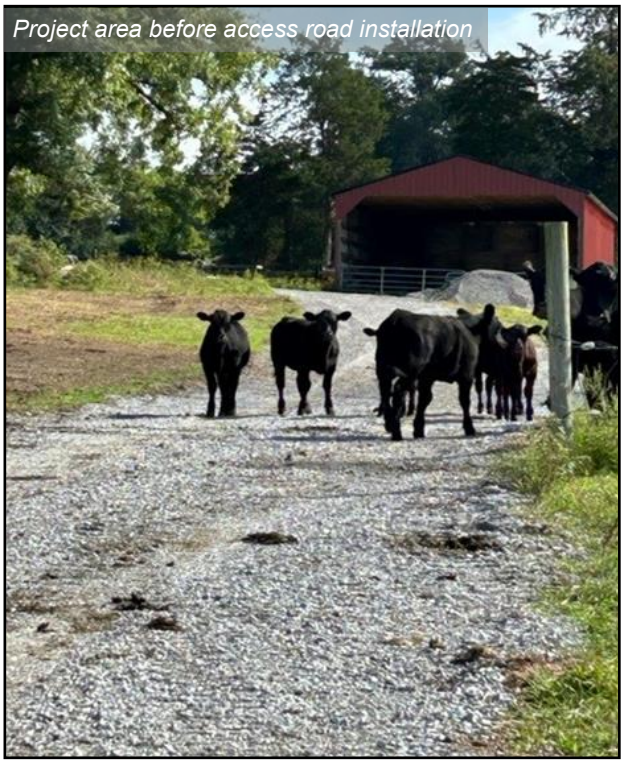
Below: Water suspended Solids filtration and measuring tools

Above: Children’s education program

GRANTEE: Claiborne County Soil and Water Conservation District
PROJECT NAME: Davis Creek/Cawood Branch Watershed Restoration Project
GRANT YEAR: FY2021
WEBSITE: http://tnacd.org/

In Federal Fiscal Year (FFY) 2023, the Claiborne County Soil and Water Conservation District (SWCD) assisted with the installation of the following best management practices (BMPs):

- Two alternative livestock watering systems
- One spring development and city connection system that including:
  - One pumping plant,
  - Four watering tanks,
  - One storage tank,
  - 4296 feet of livestock pipeline, and
  - Four 676 square foot heavy use area protection.
- 2486 feet of fencing
- 859 feet access road
- 9,633 square foot heavy use area protection
- 115 foot roof runoff structures


Project area before access road installation


Project area during access road installation


Project area after access road installation

GRANTEE: Clinch-Powell Resource Conservation & Development Council
PROJECT NAME: Clinch-Powell Rivers Watershed Restoration Project
GRANT YEAR: FY2020
WEBSITE: https://www.clinchpowell.net/

In the first 3 years of the project Clinch-Powell Trdoutvr Conservation and Development District (RC&D) spent time working with Natural Resource Conservation Service (NRCS) and the local Soil and Water Conservation Districts (SWCDs) to implement plans to make the most of their work. The largest challenge to this point was contractor scheduling and supply shortages. There are willing landowners but being able to get the projects completed continues to slow our progress. Despite this slow progress, some great strides toward watershed protection are being made.

Landowner negotiations have been executed, with three projects approved for funding. As Clinch-Powell goes into the next funding year they are hopeful to build on previous successes and experience new ones. It is envisioned that this program will be as successful as the ones in past years.

Top left: Heavy use area installation in progress

Bottom left: Planned roof runoff structure and water diversion project area

Above: Installed livestock exclusion fence

GRANTEE: Cumberland River Compact
PROJECT NAME: Oak Grove / West Fork Red River Restoration: Phase One
GRANT YEAR: FY2020
WEBSITE: http://cumberlandrivercompact.org/


Bank Stabilization in Progress at Billy Dunlop Park, Site 3

During this past year, the bulk of the major bank stabilization project was completed in June at Billy Dunlop Park. KCI Technologies regraded approximately 540 feet of sloughing banks of the West Fork Red River, installed soil lifts to stabilize the resloped banks, and installed a stone toe to prevent undercutting from erosion. The banks are slated to be planted in the fall of 2023, where soil lifts are to be planted with bare root seedlings of persimmon, willow oak, water oak, pin oak, flowering dogwood, sycamore, winterberry, and spicebush, and the saturated lower banks will be live-staked with black willow, silky willow, silky dogwood, and buttonbush. Three permanent educational signs are being designed and will be installed along the restoration project to help park-goers understand the importance of preserving the integrity of the restoration work for the park and for water quality. The Cumberland River Compact (CRC) discussed with the Clarksville Parks Department in September about extending the width of the buffer and access control measures to prevent degradation due to overuse by park-goers.


Sierra Club Cleanup of West Fork Red River at Billy Dunlop Park

In tandem with the bank stabilization project, CRC worked with the Montgomery County Soil and Water Conservation District (SWCD) and Timothy Head Farm in Montgomery County to develop an educational video about no-till and soil conservation practices to protect soil health on tobacco farming operations. The video was promoted to a targeted audience within the project area to educate and connect landowners with the Montgomery County SWCD, who has a no-till setter available to reserve. On April 8th, 2023, CRC hosted a rain barrel event at Billy Dunlop Park, selling 35 rain barrels and educating 25 individuals about stormwater runoff and water quality. CRC's Adopt-A-Stream member, the Sierra Club, hosted a cleanup on May 20th, 2023 with ten volunteers to remove three bags of trash in Billy Dunlop Park along their adopted segment of the West Fork Red River. CRC sought out locations for best management practices within the Phase 1 area and reached out to local schools, home owners associations (HOAs), and government agencies. Initial site visits at local schools and the Tennessee Department of Tourist Development's I-24 Welcome Center did not yield any viable rain garden projects; however, the Tennessee Department of Tourist Development recently approved educational watershed maps to be placed at the welcome center, and CRC is continuing to engage with schools via teacher trainings, which are now funded separately through the City of Clarksville. Outreach is ongoing to solicit project sites for the 2023-2024 planting season.

GRANTEE: Cumberland River Compact
PROJECT NAME: River Friendly Farms
GRANT YEAR: FY2019
WEBSITE: http://cumberlandrivercompact.org/

CUMBERLAND RIVER COMPACT
OUR WATER. OUR FUTURE.


Cooper Creek River Friendly Farm Certification

In 2023, the River Friendly Farms program grew substantially, establishing a solid foundation for continued operation beyond the final year of this 319 grant. The program has thirteen participating farms, and eight of these farms were certified as river-friendly this year: Una Acre Farm, Blooming Acres, Cooper Creek Farm, Forest Creek Farm, Old School Farm, Stoney Creek Farm, Broken Point Farm, and Southall Farm. Signage, high quality, promotional photos, and an educational marketing video were developed to enhance each farm's outreach efforts and showcase their river friendly practices. Continued engagement with each farm will ensure that farmers have access to educational and professional development opportunities that will enhance their own farming practices. The Compact will continue to expand the River Friendly Farms program beyond this grant.

Una Acre Farm River Friendly Farm Certification

Substantial outreach and education activities during the past year connected the Compact with farmers and partners throughout the Middle Tennessee region. These efforts not only resulted in the eight newly certified farms, but they established the program across communities and demonstrated the benefit of enrollment to potential farms. Events such as the Tennessee Local Food Summit and Natural Resources Conservation Service (NRCS) and University of Tennessee (UT) Farm Field Days directly educated 190 people and reached 870 people about the program, and one-page advertorials in Edible Nashville typically reach 12,500 readers each issue. One issue was published in July of 2023 on Broken Point Farm and Cooper Creek Farm, and another was published in September of 2023. An interview about the River Friendly Farms program and associated BMPs aired on RFD-TV–a television channel focused solely on agriculture– and saw viewership for the week at 63,000 viewers. Partnerships with soil and water conservation districts and NRCS offices will continue to expand the reach of this program across Tennessee, such as the Compact's first Soil Health Workshop on cover crops at Southall Farm & Inn held on September 18th, 2023. Given the traction that the program has gained and the funding secured for future program expansion, the program is poised for strong growth over the next few years.

Broken Point Farm River Friendly Farm Certification

GRANTEE: Grainger County Soil and Water Conservation District
PROJECT NAME: Richland Creek
GRANT YEAR: FY2020
WEBSITE: http://www.graingercountytn.com/county-officials/soil-conservation/

Top left: Participants being informed about available best management practices at the annual farm tour
Top right: Landowners at the annual 319 banquet
Below: Water facility and livestock heavy use area

The Grainger County Soil and Water Conservation District (SWCD) Richland Creek Watershed Grant started April 1st of 2022 and has been steadily progressing over the past year. The grant has made an impact on water quality within Grainger County. Working with Landowners, implementing best management practices (BMPs) and helping to repair old or failing septic systems, in an effort to prevent or reduce nonpoint source pollution. During the course of this project, one source was identified as the loss of biological integrity of Richland Creek. The cause being *Escherichia coli* (*E. coli*), which comes from manure sources. Grainger County SWCD has focused on fencing cattle off the streams that feed Richland Creek and repairing septic systems. Currently there are 12 projects obligated, five of which are completed septic system repairs.

There were several outreach events that took place, first was the annual farm tour where BMP's and the Richland Creek Grant were discussed. There were 55 people in attendance and speakers from our local staff. Second, the annual awards banquet was held where the Richland Creek project was presented to make landowner aware of this grant. In addition, Allison Davidson, the county technician went to a local high school for a job fair to inform high schools students about job opportunities in the Soil Conservation. Ms. Davidson also discussed the upcoming 319 project taking place on the high school agricultural grounds.

GRANTEE: Green Interchange
PROJECT NAME: Spring Creek/ Black Branch Implementation
GRANT YEAR: FY20
WEBSITE: https://www.greeninterchange.org/

The Spring Creek/Black Branch projects were designed to identify and restore sites along the streams responsible for the impaired listing. Black Branch and Spring Creek are listed for alteration in streamside cover or littoral vegetation, nutrients and *Escherichia coli* (*E. coli*). Project staff have conducted two primary activities under the contract, 1) meeting with city and county personnel and 2) conducted field survey work to identify possible sites for best management practice (BMP) implementation. In addition, one landowner meeting has occurred. Project staff met with the City of Lebanon and Wilson County's Stormwater Directors and the County mayor to garner support for the project as well as to identify possible sites. Wilson County has interacted with many of the landowners along Spring Creek and Black Branch. However, in some cases the county interactions have been regulatory in nature and thus not favorable for project staff to get an introduction. Green Interchange will continue to network to get before landowners with practices that may be influencing water quality along Spring Creek and/or Black Branch. Project staff, along with Tennessee Department of Agriculture (TDA), City, and County staff have conducted two field surveys. Results indicated that widespread riparian degradation, bank stability and nutrient enrichment are problems in the watershed. Fortunately, it appears from this first look that many of the problems in Spring Creek, as reported by the Tennessee Department of Environment and Conservation (TDEC) Data Viewer maps are along small streams in the upper headwaters. With landowners engagement, and practices on the ground water quality should return in a reasonable time frame.

Right: Erosion along Spring Creek

Left: Spring Creek tributary with algae, indicative of nutrient enrichment.

GRANTEE: Knox County
PROJECT NAME: Beaver Creek Initiative— Phase 3
GRANT YEAR: FY2020
WEBSITE: http://www.knoxcounty.org/

In the past year, the Beaver Creek Phase III Initiative has completed three septic repairs and one sewer connection. All grant money designated for septic projects has been spent, for a total of nine septic repairs or sewer connections. Due to lack of interest in agricultural projects, and an increased cost for completing septic repairs, $24,000 of the "Professional Fee, Grant & Award" budget was reallocated from agriculture sector projects to complete those septic projects. Two farm projects were dropped due to lack of interest from landowners, but one project was expanded to use the majority of the agriculture designated grant funds, and is still in progress.

Despite exhausted septic grant funds, educational efforts were continued this past year through tabling at five local events: the Dogwood Arts House & Garden Show, the TEAM Ag conference, Beaver Creek Flotilla, Tennessee Smart Yards festival, and the Tennessee Valley Fair. Septic and agricultural best management practice (BMP) information was posted at those events and at libraries in the watershed. Seven social media posts and five newsletter articles were also published about grant and watershed activities. A joint farmers' breakfast for the Beaver Creek and Flat Creek watersheds was hosted, with about 40 attendees. Efforts were also started on a project at the Gibbs Ruritan Park in the headwaters of Beaver Creek to create a demonstration rain garden with native plantings. The area was studied for infiltration, and project site prep was conducted, with an anticipated construction and planting planned for winter. Educational signage will be posted when this project is complete.

Below: Farmers breakfast for the Beaver Creek and Flat Creek Watersheds

Below: Infiltration testing at Gibbs Ruritan Park

Infiltrati

Above: Booth at the 2023 Beaver Creek Flotilla

Above: Flier to advertise grant funding for agricultural projects

GRANTEE: Knox County Soil and Water Conservation District
PROJECT NAME: Flat Creek Watershed Restoration Project—Phase 2
GRANT YEAR: FY2020
WEBSITE: http://www.knoxcounty.org/


Farmers Breakfast


Heavy use area and alternative livestock watering facility

Knox County Soil and Water Conservation District (SWCD) Flat Creek Watershed Restoration Project –Phase II completed three septic repairs. The septic repair projects consisted of installing a total of 500 feet of new drain field and a new interceptor drain. A total of $5,550.00 was reimbursed for septic repairs. The agricultural projects consisted of installing a total of 100 feet of pipeline, 1 livestock watering facility, and 11,256 square feet of heavy use area protection (HUAP). The three agricultural projects treated a total of 186 acres and received $28,380 in cost-share reimbursements.

Knox County SWCD also hosted two outreach events using funds from the grant. One was a farmer's breakfast. The breakfast was held at a local church in the watershed and had 47 farmers and landowners in attendance. During the breakfast, conservation practices available through the grant were discussed. The Foothills Land Conservancy attended as a guest speaker, they discussed conservation easements and how they could possibly benefit Knox County farmers and landowners. The 13th annual Knox County Farmer's Banquet was hosted at a local event venue in the watershed, with over 130 farmers in attendance.


Heavy use area and alternative livestock watering facility

GRANTEE: Monroe County Soil and Water Conservation District
PROJECT NAME: Bat Creek Restoration Initiative Phase I
GRANT YEAR: FY2019
WEBSITE: https://www.facebook.com/MonroeSCD/

I. Implementation of Agricultural Best Management Practices:
With a short period of time between (4/1/23 to 8/31/23) the Monroe County Soil and Water Conservation District (SWCD) and the Natural Resources Conservation Sources (NRCS) was able to implement and complete Phase 1 of the Bat Creek Section 319 contract. With help with the Tellico Waters Group identifying and testing multiple site along the watershed, the site of the highest levels of *Escherichia coli* (*E. coli*) and sediment was resolved.

Two individual operators representing two contracts completed their planned practices for this reporting period and contract deadline. Both contracts implemented exclusion fence from the streams denying access and alternative waters was installed in place to help better distribute prescribe grazing and interior fence was installed to divide the fields. Grassed and rock lined waterways were installed to reduced nutrient & sediment loads and all those areas was also fenced off utilizing Environmental Quality Incentives Program (EQIP) funds to help with cost. Two stream crossing were installed to allow livestock access across the waterways to disperse into grazing field. The outcome was a great success to start off the beginning of Phase I of the Bat Creek 319 Watershed Project.

Practice:	**NRCS Code**	**Quantity Installed:**
Cross-fencing for Rotational Grazing Systems	382(d)	1260 feet
Access Control Fence	382(a)	1864 feet
Alternative Watering System	614	2 Tanks & 4 Hydrants
Pipeline	516	2864 feet
Heavy Use Area Protection (Tank)	561	2028 square feet
Lined Waterway or Outlet Rock Lined, 24 inch	468	11,260 square feet
Lined Waterway or Outlet Plunge Pool	468	75 cubic yards
Stream Crossing	578	2 crossing
Animal Trail & Walkway	575	300 feet
Grassed Waterway < 1000ft long	412	6656 square feet
Critical Area Planting	342	2.5 acres
Mulching Natural Cover	484	2.5 acres
Mulching Erosion Control Blanket	484	38,755 square feet


Access road project area prior to installation


Access road project area prior to installation


Stream crossing under construction


Completed stream crossing


Rock lined outlet prior to construction


Completed rock lined outlet

GRANTEE: Morgan County Soil and Water Conservation District
PROJECT NAME: Crooked Fork Restoration Project, Ph. IV
GRANT YEAR: FY2020
WEBSITE: https://www.tn.gov/agriculture/article/ag-scd-morgan

conserving natural resources for our future

During Federal Fiscal Year (FFY) 2023, Morgan County Soil and Water Conservation District (SWCD) completed the following activities:

Project	Acres of Impact	Cost Share Amount	Remaining Balance
3 Septic Repairs	7.76	$11,906.00	See amount below
0 Reseeding projects	-	-	$47,293.48 BMP
Administrative Salary	-	$13,629.00	$13,074.00 Salary

In addition to the above listed Morgan County SWCD had five active septic repairs, one cropland conversion, and three re-seeding projects. Upon completion of these practices, 319 yard signs are displayed.

The Morgan County SWCD remained committed to sharing with the communities within the Crooked Fork Creek Watershed about the availability of resources to them. As did many counties in the state, Morgan County had very wet conditions during the first half of the year, and many projects had to be delayed.

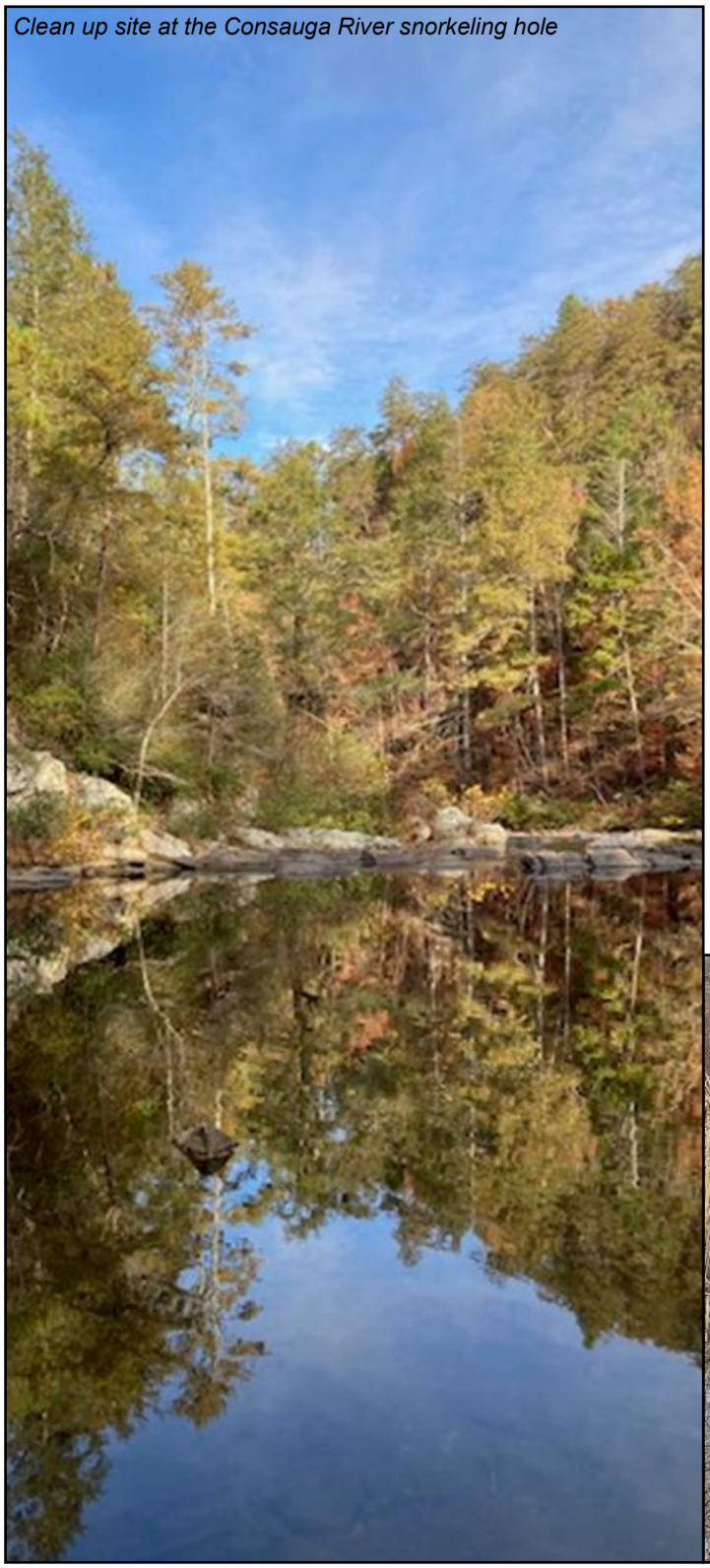
Morgan County SWCD held its second Farmers Field Day on September 16, 2023. This was done in conjunction with University of Tennessee—Tennessee State University (UT-TSU) Extension and Morgan County Career and Technical Center. Topics were pasture renovations, weed control, pond management, among other topics.

The county poster contest winner from 2022 was selected and was awarded with a certificate, along with a check from the board. The winning poster was submitted to the state, however was not selected this year in the winning category.


Failing septic system prior to repair


Completed septic system repair

GRANTEE: Southeast Tennessee Resource Conservation & Development Council
PROJECT NAME: Conasauga River Tributaries—Phase III
GRANT YEAR: FY2022
WEBSITE: http://setnrcd.org/


Clean up site at the Consauga River snorkeling hole

Work began on Phase III of the Conasauga River Tributaries Project on June 1. Since that time, Southeast Tennessee Resource Conservation and Development Council (SETN RC&D) has built awareness of the grant through outreach events and discussions with farmers, homeowners, contractors, partnering agencies, and county government officials. On October 28, 2023, a site for the Conasauga River Cleanup at the Conasauga Snorkeling Hole in the Cherokee National Forest was hosted. There were participants who attended this event. On November 16, 2023, a presentation discussing cost-shares on agricultural best management practices (BMPs) and septic repairs was held at the Bradley County Soil and Water Conservation District's (SWCD) Annual Banquet. There were over 80 individuals who indicated they would attend this event, and it is estimated that around that many were in attendance.

Roughly a year ago, the Bradley County Commission voted to use American Rescue Plan (ARP) funding to create a septic program that would cover 80% of repair costs of failing septic systems for residents in their county. Though part of the Council's work area is located in Polk County, the majority of the watershed is in Bradley County. The ARP program was great news for county residents and should lead to reduced bacteria loads to nearby streams but it made our 319 funds no longer competitive due to the available 80% rate with the ARP program. The ARP program is now out of funding so interest in the 319 septic program occurred again. To date, SETN RC&D provided a cost-share on one septic repair.


Wetland protected by exclusion fencing

GRANTEE: Southeast Tennessee Resource Conservation & Development Council
PROJECT NAME: Hiwassee River Tributaries Project, Ph. 2
GRANT YEAR: FY2021
WEBSITE: http://setnrcd.org/


Multispecies cover crop at the Moore/Richardson farm.


Waterline installation at the Sanders property.

Southeast Tennessee Resource Conservation and Development Council (SETN RC&D) worked with Ben Sanders to implement conservation practices on his farm. The Sander's property is located on the mainstem of Chatata Creek. Cost-shares on cover crops, annual crop conversion to perennial grasses, and waterlines were provided, so that cattle no longer needed creek access. Additionally, a cost-share on cover cropping at the Jim Moore/Clay Richardson farm was provided, and will be cost-sharing on BMP installation at Ron Beene's property in the months ahead.

Roughly a year ago, the Bradley County Commission voted to use American Rescue Plan (ARP) funding to create a septic program that would cover 80% of repair costs of failing septic systems for residents in their county. Though this was great news for county residents and should lead to reductions in bacteria loads to nearby streams, it made 319 funds no longer competitive due to the available 80% rate with the ARP program. That program is now out of funding so we are beginning to see some interest in the 319 septic program. To date, the SETN RC&D Council has cost-shared on one repair but has been in communication with several homeowners who are in the process of getting Tennessee Department of Environment and Conservation (TDEC) permits and contractor quotes.


Location of proposed stream crossing on Chatata Creek

GRANTEE: Southeast Tennessee Resource Conservation & Development Council
PROJECT NAME: Sequatchie Cave State Natural Area and Owen Spring Branch
GRANT YEAR: FY2018
WEBSITE: http://setnrcd.org/

To date, all dirt work and vegetation planting has been completed and installed according to KCI engineer's design plans. The bioretention swales have proven effective in slowing, capturing, and treating stormwater even during sustained rainfall events. The rock armoring and new culvert at "The Boils" has stabilized the channel and prevented scouring at the culvert inlet.

It is anticipated that Southeast Tennessee Resource Conservation and Development Council (SETN RC&D) will print aluminum interpretive signs to install at the site, as well as, having a metal fabrication shop weld some steel base plates to attach the sign to. The signs explain how bioretention swales work and their role in protecting the water quality of Owens Spring Branch. Coordination between the SETN RC&D and Sequatchie Cave State Natural Area's staff is in progress for a planned cleaning of the permeable pavement in the main parking area to ensure this green infrastructure is functioning as expected will be had.

Top left: Rock armoring and culvert at "The Boils"

Bottom right: Completed fence protecting wildflower area and bioretention swales

Bottom: Educational signage.

GRANTEE: Tennessee Environmental Council
PROJECT NAME: Lytle Creek Restoration, Phase II
GRANT YEAR: FY2018
WEBSITE: https://www.tectn.org/

TENNESSEE ENVIRONMENTAL COUNCIL

The Tennessee Environmental Council (TEC) continued to improve the Stones River watershed and Lytle Creek through sustainable infrastructure installation along the stream bank, riparian reforestation and rain garden installations. Lytle Creek is impaired due to alterations in stream-side or littoral vegetation and sedimentation/siltation. The Council used cedar revetments and coir logs, a sustainable bioengineering method, to stabilize eroding banks, add roughness to the stream channel, capture silt and provide aquatic habitat. All trees used to expand and enhance the existing riparian buffer zone are native to the region, as are the plants in the rain gardens. Staff from TEC, with the help of volunteers, restored approximately 50 linear feet of Lytle Creek this year. Volunteers from Middle Tennessee State University also helped TEC install a rain garden at Old Fort Park. The rain garden, located off a parking lot, collects rainwater from the parking lot and helps infiltrate and filter the water instead of flowing directly into a small tributary to Lytle Creek. The Council also participated in the Stones River Waterfest held at Old Fort Park in Murfreesboro. Over 1,000 students participated at Waterfest this year, many of whom learned about macroinvertebrates and the role they play in determining the quality of water of a stream.

Top left and right: Rain garden construction

Bottom left and right: 2023 WaterFest attendees

GRANTEE: Tennessee Environmental Council
PROJECT NAME: Rutherford Creek Phase IV—
Grassy Branch Creek Restoration
GRANT YEAR: FY2018
WEBSITE: https://www.tectn.org/

TENNESSEE ENVIRONMENTAL COUNCIL

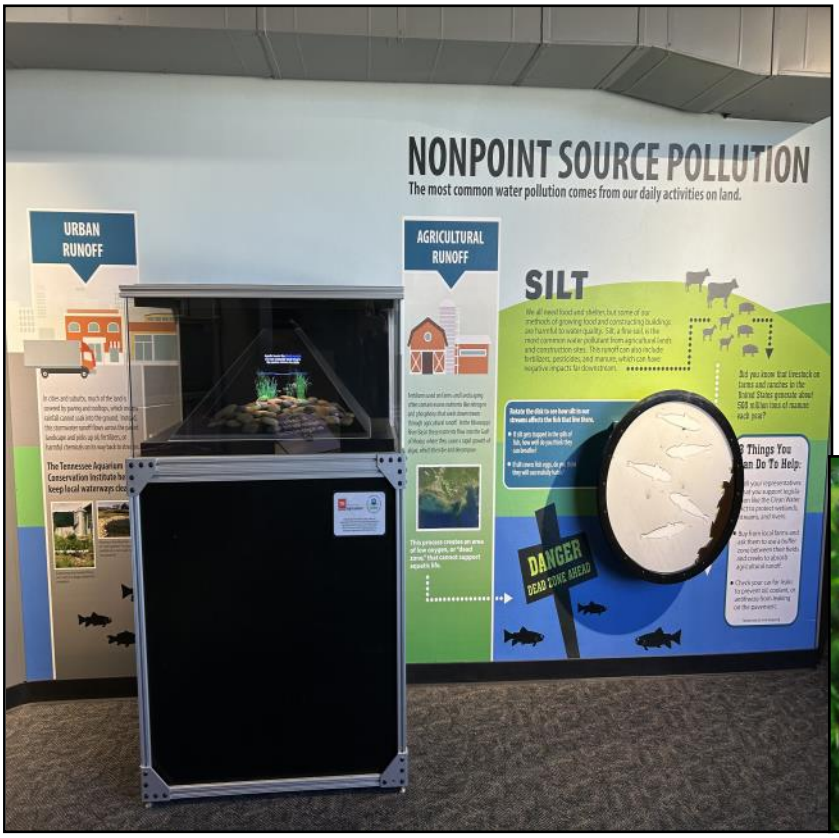
The Tennessee Environmental Council (TEC) continued to improve the Duck River watershed and Grassy Branch Creek through sustainable infrastructure installation along the stream bank, riparian reforestation, and rain garden installations. Grassy Branch creek is impaired due to alterations in stream-side or littoral vegetation and sedimentation/siltation.

The Council used cedar revetments and coir logs, a sustainable bioengineering method, to stabilize eroding banks, add roughness to the stream channel, capture silt and provide aquatic habitat. All trees used to expand and enhance the existing riparian buffer zone were native to the region, as were the plants in the rain gardens. Council staff, with the help of volunteers, restored and maintained approximately 100 linear feet of Grassy Branch Creek this year. This will go toward the goal of achieving clean water for the community and ultimately removing Grassy Branch Creek from the *List of Impaired and Threatened Waters*.

Above: TEC staff and volunteers planted live stakes along a barren section of Grassy Branch Located in the Campbell Station subdivision.

Left: highly eroded outer bend stabilized with cedar revetments.

GRANTEE: Tennessee Aquarium
PROJECT NAME: Watershed Education
GRANT YEAR: FY2022
WEBSITE: https://tnaqua.org/



In 2017, the Tennessee Aquarium received 319 funding from the Tennessee Department of Agriculture to create a holographic display for the "Tiny But Mighty Important" exhibit in the River Journey building. The display educates guests about the importance of small stream fishes and of the impacts of nonpoint source pollution on aquatic ecosystems and these small fishes.

Above: Tiny But Mighty Important exhibit with nonpoint source information

Top right: Barrens topminnow on exhibit with the Tiny But Mighty Important exhibit

Bottom right: Holographic exhibit explaining the impacts of runoff

The Aquarium is in the early stages of planning a redesign of the exhibit to update the nonpoint source messaging and make the holographic display. The Aquarium will lower the holographic display in a new cabinet that will make it more accessible to children. The Aquarium will also design new graphics that are designed to be more kid-friendly and fun for all ages. Additionally, the Aquarium considered adding another species, diamondback terrapin, to the propagation wall which is across from the nonpoint source exhibit. The turtle propagation occurring in our "Turtles of the World" exhibit has shown that the public really loves turtle "babies." While turtles might not be the most intuitive partner for a nonpoint source pollution exhibit, they are being considered to help bring more foot traffic into the "Tiny But Mighty Important" exhibit. Currently, the Aquarium is still developing the key messages for new graphics.

GRANTEE: TN RC&D
PROJECT NAME: Envirothon
GRANT YEAR: FY2022
WEBSITE: https://tnrcd.org/


Montgomery Bell First Place Winners


First, second, and third place winners

This year's competitions involved 84 teams comprised of 420 students, 85 coaches and advisors, and 138 volunteers assisting in 7 regional contests. Each local Tennessee Resource Conservation and Development (TN RC&D) Council had a team represent them at the Tennessee State Envirothon held May 2-3, 2023 at the Clyde York 4-H center in Crossville, TN. Regional RC&D councils participating were: Appalachian RC&D Council, Buffalo & Duck River RC&D Council, Cumberland Mountain RC&D Council, Five Rivers RC&D Council, Hull-York Lakeland RC&D Council, Smoky Mountain RC&D Council, Southeast TN RC&D Council, as well as an At-Large team. At-Large teams are those that are not located in an area represented by a TN RC&D Council. The generosity of partnerships allowed for an additional two high-scoring 'Wild Card' teams to attend the Tennessee State Envirothon competition for a total of 10 teams competing at the Tennessee State Envirothon. The winning team this year was Montgomery Bell Academy from the 5 Rivers RC&D Council. Montgomery Bell Team 1 will represent Tennessee in the National Conservation Foundation's International Envirothon competition on July 23-29, 2023 in New Brunswick, Canada. Placing second in the Tennessee Envirothon contest was Montgomery Bell Academy Team 2 from 5 Rivers RC&D Council, and third place went to William Blount High School from Blount County and representing Smoky Mountain RC&D Council.

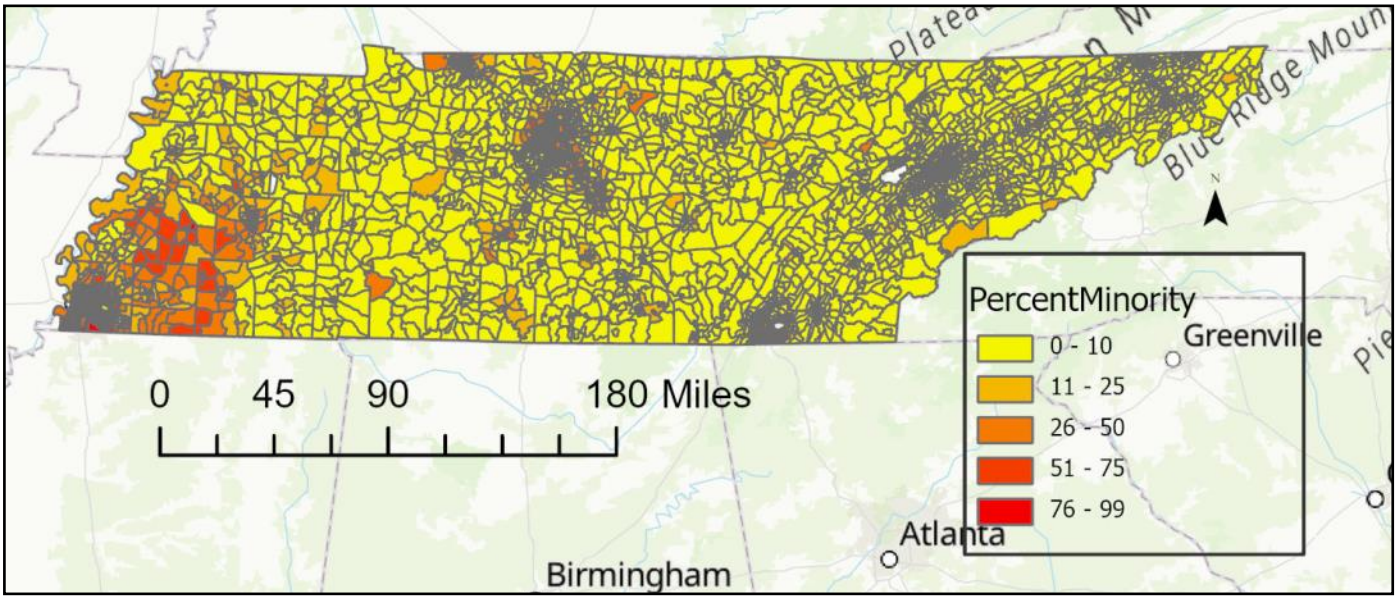
The TDA 319 grant funding allowed the successful implementation of the 2023 Tennessee Envirothon program including program management, meal and lodging expenses for the state contest at the Clyde York 4H center, and award recognition. Environmental education and conservation stewardship values instilled with this next generation of Tennessean students through the TN Envirothon will remain throughout their lifetimes. The 'team approach' encourages cooperative decision-making and team building. Each Area/Regional contest representative team advances to the State Envirothon contest where a similar competition is held with the added element of a special problem presentation that focuses on the Current Environmental Issue. Critical thinking skills are taken to a higher level as the competitions progress to state and national. The teams develop their presentation which is judged on 6 speaking ability, teamwork, and knowledge of the subject matter. While each student is encouraged to do their best, the score that counts most is the Team score as students must make management decisions and judgments based on their knowledge and the information provided to them at the contest site. Each contest level cultivates a desire to learn more about the complexity of the 5 natural resources areas being tested.

GRANTEE: Tennessee Tech University
PROJECT NAME: Watershed Based Environmental Justice
GRANT YEAR: FY2022
WEBSITE: https://www.tntech.edu/

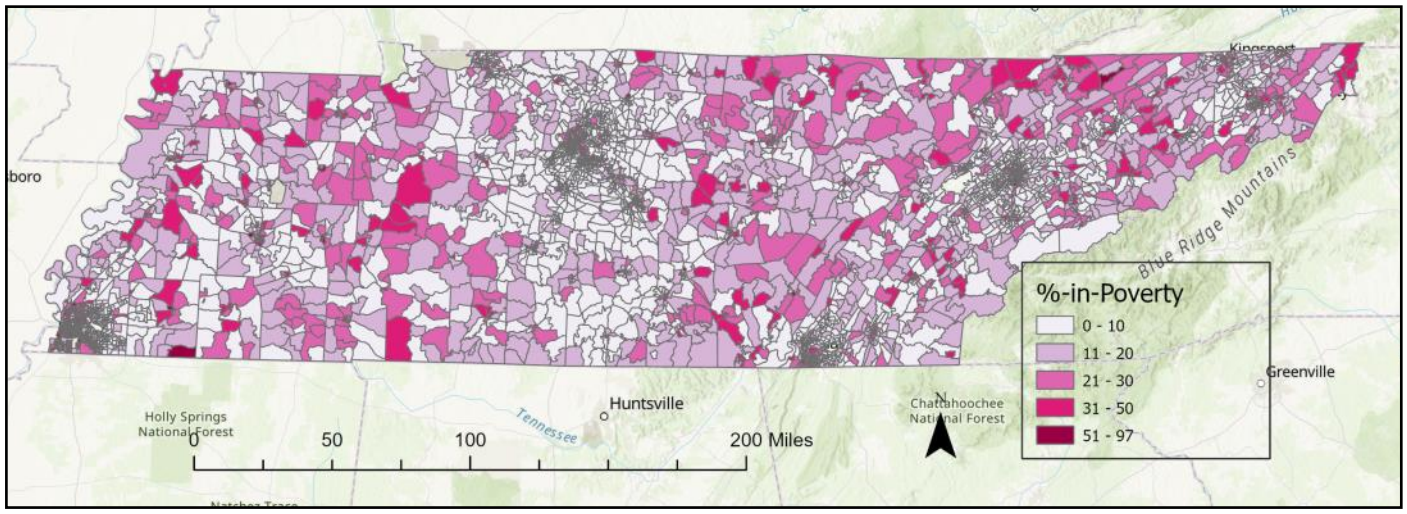
From June to July, Tennessee Tech University focused on collecting data and discussing need with Tennessee Department of Environment and Conservation (TDEC). The spatial and temporal data with meaningful parameters were collected and downloaded from the following sources: 1) TDEC – Division of Water Quality Data, including ambient water quality data, fish tissue data, monitoring station's locational data and the *List of Threatened and Impaired Waters*. 2) Oak Ridge National Laboratory – LandScan population projection data, and population density layer. 3) United States Geological Survey (USGS) – Watershed boundary dataset, 4) Census Bureau – Demographic data, including Census tract, Block-group, and census block boundary data, with demographic parameters.

From August to October, the tasks included the following: 1) management of projection issues with all layers to be imported to the project, 2) Creation of poverty ratios for block-group census unit in Tennessee, 3) calculation of minority ratio for each census block-group unit, 4) investigation of educational background from demographic data in Tennessee. 5) selection of watersheds, especially focus on HUC-10 boundary data. 6) processed 303-d list to spatially join to hydrologic unit code—10 (HUC-10) watersheds. 7) extraction of LandScan data into geographic information system (GIS) layer and used geoprocessing tools to connect the results to HUC-10 watersheds.

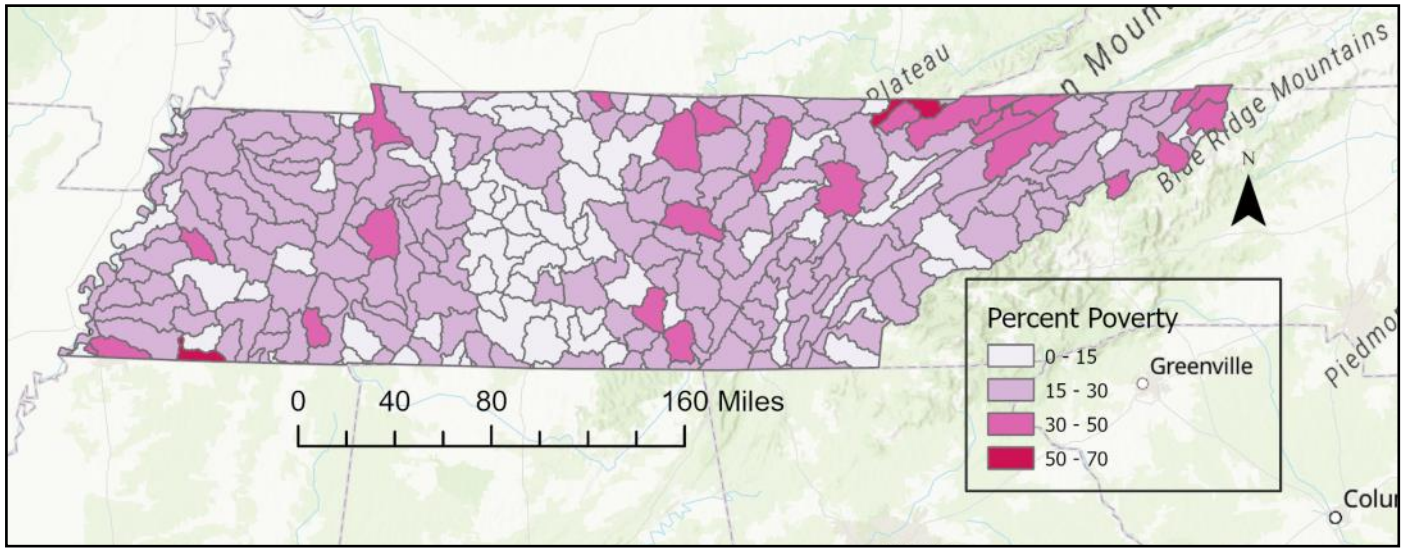
The following figures show the preliminary results from GIS spatial analysis and model. The results will be used to factor the environmental justice scenarios in middle and entire Tennessee based on watershed boundaries in next report years.



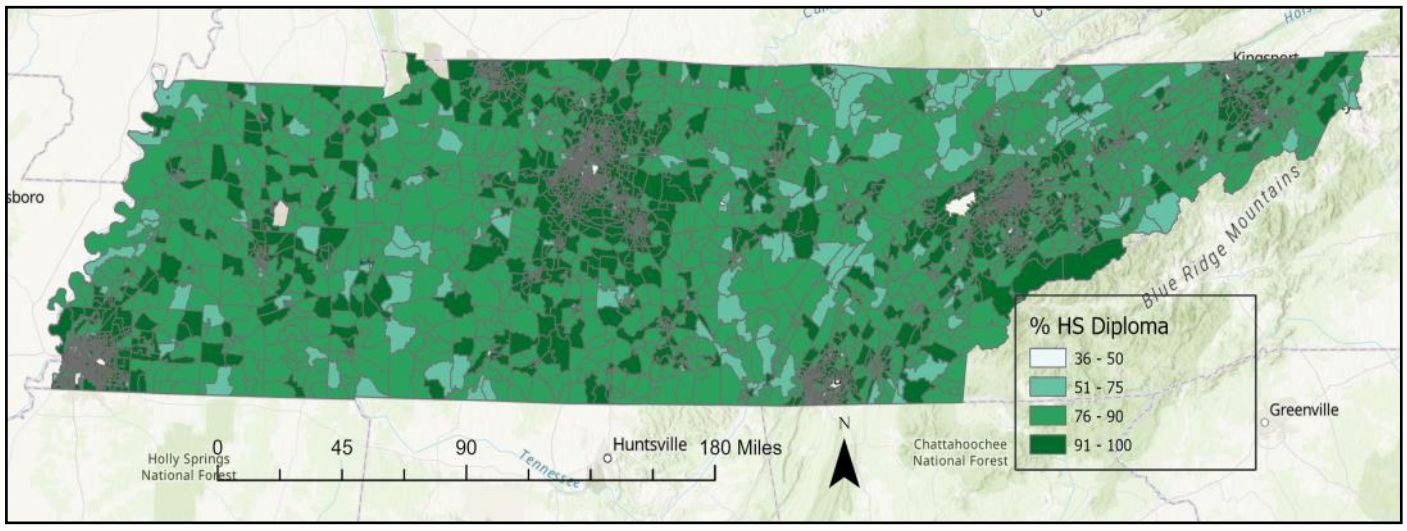
Percent Minority based on Census Block-Group Demographics



Percent In-Poverty Ratio based on Census Block group



Percent In-Poverty Ratio based on HUC-10 Watersheds



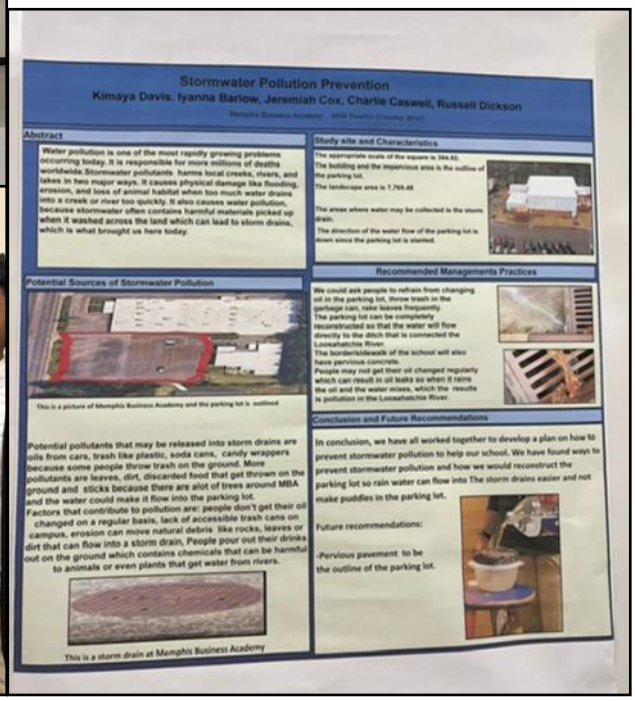
Percent with High School Diplomas in Census Block Group, Tennessee

GRANTEE: University of Memphis
PROJECT NAME: Educate Teachers and Inspire Students to Protect the Tennessee Watersheds
GRANT YEAR: FY2020
WEBSITE: https://www.memphis.edu/

Top left: students participated in the poster presentation competition that was conducted at the University of Memphis on Dec 6th, 2022

Bottom left: student participants at the poster presentation competition

Below: Poster prepared by a team on stormwater pollution prevention



This project was conducted to raise awareness of K-12 teachers, educators, and students about nonpoint sources pollution (NPS), aiming to better protect the Tennessee water resources. The specific learning objectives were to (1) understand the basic water quality parameters, (2) identify the sources of NPS pollution in Tennessee, (3) describe the appropriate practices to reduce the impacts of NPS on water streams, and (4) develop students' projects on NPS. For this purpose, some class materials including the presentations and lesson plans were prepared about the general stormwater quality parameters, nonpoint sources pollution in Tennessee, and structural and nonstructural best management practices (BMPs). The developed hands-on activities demonstrated water flow and infiltration through the land and described different types of pollution within the aquatic environment. A students' project competition has been conducted for students from the Memphis and Jackson areas in Tennessee. For this purpose, a virtual introductory workshop has been conducted for the teachers and science, technology, engineering and mathematics (STEM) educators on October 6th, 2022. The interested teachers have organized the students' teams and led the projects at their schools. They were in contact with Principal Investigator Salehi as they were leading the students. Through, this project the students have been asked to explore their schools to (1) identify the water flow and infiltration through the land, (2) identify the sources of stormwater pollution, and (3) develop a mitigation plan to control the stormwater pollution within their schools. After that, the students demonstrated the results of their study in posters. A virtual question and answer session was conducted on Nov 15th, 2022 to address the teachers' questions regarding the projects. The students presented their posters through a poster presentation event conducted in the Herff College of Engineering at the University of Memphis on Dec 9th, 2022, as illustrated in Figures 1-4. 22 students have participated in this competition. Select students' teams have been awarded $300 to implement their designed mitigation plans at their schools, and all participating students received certificates for their efforts. Additionally, a virtual workshop was conducted on July 18th for teachers and STEM educators regarding NPS and pollution prevention practices.

GRANTEE: WaterWays! (formerly TenneSEA and Caribbean SEA)
PROJECT NAME: Reducing Non-point Source Pollution in Shoal Creek and Middle Creek Watersheds
GRANT YEAR: FY2019
WEBSITE: https://www.caribbean-sea.org/


Inspecting Bee Creek


Septic system repair

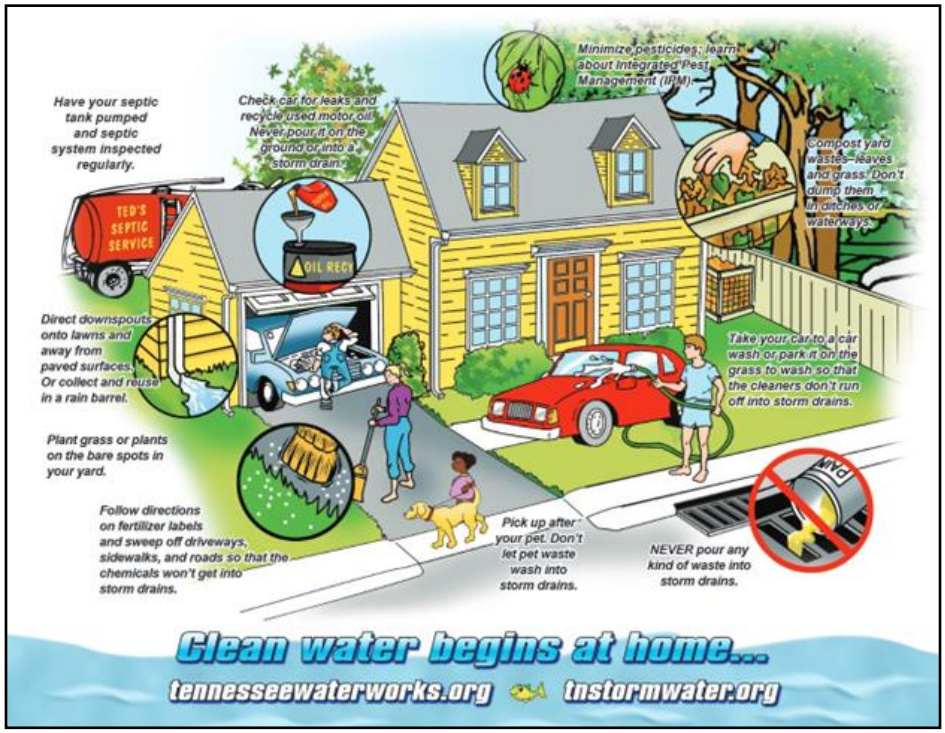
With respect to the focus on Bee Branch septic remediations to reduce bacterial loading, WaterWays met with numerous homeowners and septic repair businesses leading to repair of nine septic systems in the watershed. This stream is also impacted by sewer issues which are being repaired by the Waste Water Treatment Authority.
The mine drainage remediation projects finally gained approval by worried and vocal neighbors. The wetland work was bid out and Signal Excavating undertook the work to create the wetland berms to create four wetlands. More seepage points in the vicinity have risen to the surface that WaterWays attempted to catch the runoff from. The planting of wetland vegetation and berms should increase the treatment capacity of the wetlands.

Educational programs at the schools and in the community continued, and a final activity report was presented to the Signal Mountain Town Council regarding the mine remediations and septic system repairs.


Berm repair project area

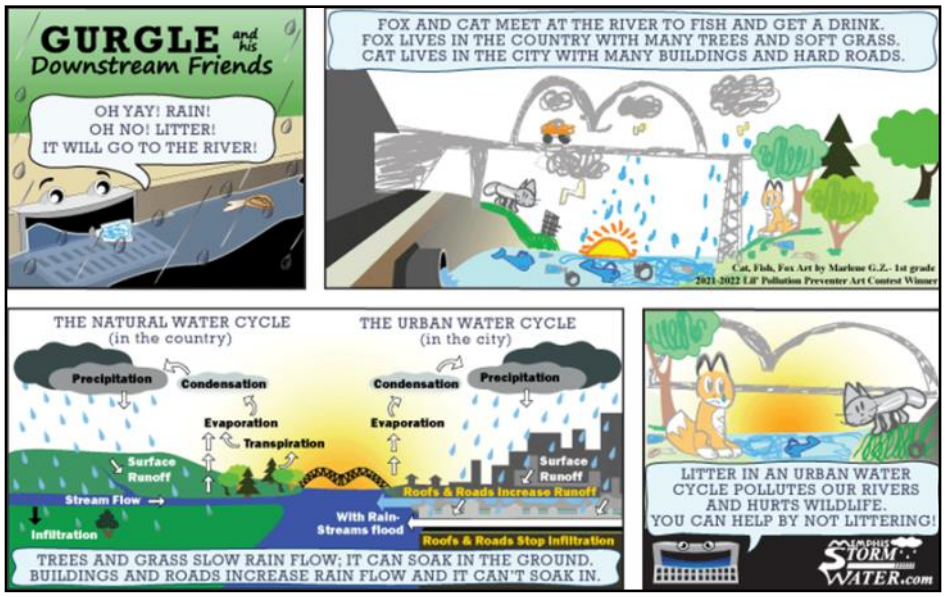

Berm repair project area

GRANTEE: Wolf River Conservancy
PROJECT NAME: Educational Signage and Outreach for the Wolf River Greenway
GRANT YEAR: FY2021
WEBSITE: www.wolfriver.org



Above: Example of education signage design option

Below: Educational signage design



The Wolf River Conservancy coordinated the construction of the Wolf River Greenway trail project in Memphis, Tennessee. Approximately 14-miles of the total 26-mile-long Greenway have been constructed. The construction of phase 12A-1 is underway, and phases 6 & 7 will begin in early 2024.

The Wolf River Conservancy Program Committee discussed options for the placement of the non-point source stormwater education signage at various points along the trail, including the information to be included, design, and verbiage. Along with information on the Wolf River watershed, various sources of storm water pollution, and citizen actions to mitigate the problem, Wolf River Conservancy discussed images, including several utilizing artwork created by local students. The most likely locations for stormwater education signs are at pedestrian bridges across the Wolf River and its urban tributary streams where they intersect with the Wolf River Greenway. Wetland areas may also be included because of their role in mitigating both quantity and quality of stormwater.

Conservancy staff has identified a possible contractor for producing the signage in the future. At this point in time, no expenditures towards the grant have been incurred.

APPENDIX A

LONG TERM GOALS—
CURRENT PROGRESS SUMMARY

LONG TERM GOALS - CURRENT PROGRESS SUMMARY

Introduction

The table below summarizes the long term goals set for the Tennessee Nonpoint Source Program (TN-NPS). The table was adapted from the *Tennessee Department of Agriculture Nonpoint Source Program Management Document* as approved by the U.S. Environmental Protection Agency (EPA) in 2014, and updated in 2019. The intent of the table below is to be evaluated and populated annually during the preparation of the Annual Report, in order to determine if the long term goals set forth in 2014 are on-track to be completed by the end of this second 5-year Planning Period (2020 – 2024). The overall progress of the program, as well as the sector-specific goals, will be monitored; and, management of the program and/or specific sectors will be adapted as needed if adequate progress is not being made. The annual evaluation will assist with making necessary changes to the program as soon as issues are identified, as opposed to only discovering challenges towards the end of the Planning Period (when too little time remains to correct the program's path). The progress for each aggregate and sector-specific goal is provided as:

- **On track to achieve outcomes** - adequate progress has been made towards the long term goal such that there is a high likelihood of being reached by the end of the Planning Period.
- **Exceeded expectations** - exceptional progress has been made towards reaching the long term goal such that there is a high likelihood of being reached prior ahead of schedule.
- **Insufficient progress** - the pace of output achieved must improve in order to ensure that the long term goal can be reached by the end of the 5-year Planning Period.

While many of the annual goals are quantitative in nature, the outcomes are somewhat qualitative. TN-NPS staff used their best judgment while populating the table in order to gauge the overall progress of the program. Additional, detailed information about the Measures of Success used (in part) to determine the annual progress of the long term goals can be found on the Measures of Success Checklists in Appendix B.

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES

Long Term Goal (5 year)	Sector	Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)	Outcomes	Progress Made in Year 1 (FFY2020)	Progress Made in Year 2 (FFY2021)	Progress Made in Year 3 (FFY2022)	Progress Made in Year 4 (FFY2023)	Progress Made in Year 5 (FFY2024)
Long Term Goal No. 1: Restore impaired water bodies (i.e., those on the 303(d) list) by implementing best management practices (BMPs) that address nonpoint source pollution.	Aggregate	• Restore 2 water bodies every other year, on average. • Reduce N load by 5,000 lbs/year; P_2O_5 load by 5,000 lbs/year; and sediment load by 200 tons/year (minimum reductions)	• Improve water quality by reducing water quality impacts from nonpoint sources.	**Exceeded expectations.** *All aggregate goals were met or exceeded.*	**Exceeded expectations.** *All aggregate goals were met or exceeded.*	**Exceeded expectations.** *All aggregate goals were met or exceeded.*	**Exceeded expectations.** *All aggregate goals were met or exceeded.*	
	Agriculture	• Fund no less than 3 projects each year that address agricultural sources of NPS pollution, depending on the number and quality of proposals received. • Fund the implementation of no less than 65 agricultural BMPs per year. • Staff Watershed Coordinators will perform no less than 200 site visits each year to inspect BMPs pre-, during-, and post-construction.		**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	
	Forestry	• Fund no less than 1 forestry-based project each year, depending on the number and quality of proposals received. • Fund the implementation of no less than 5 forestry BMPs each year, depending on the number of active forestry restoration projects.		**Insufficient progress.** *No BMP-related forestry proposals were received; 1 forestry BMP was installed.*	**Insufficient progress.** *No BMP-related forestry proposals were received; three forestry BMPs were installed.*	**Insufficient progress.** *No BMP-related forestry proposals were received; only two forestry BMPs were installed.*	**Insufficient progress.** *No BMP-related forestry proposals were received; only three forestry BMPs were installed.*	

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES								
Long Term Goal (5 year)	**Sector**	**Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)**	**Outcomes**	**Progress Made in Year 1 (FFY2020)**	**Progress Made in Year 2 (FFY2021)**	**Progress Made in Year 3 (FFY2022)**	**Progress Made in Year 4 (FFY2023)**	**Progress Made in Year 5 (FFY2024)**
	Urban	• Fund no less than 2 projects focused on stormwater issues in developed areas each year, depending on the number and quality proposals received. • Fund no less than 12 stormwater BMPs each year, depending on the number of active urban/suburban restoration projects. • Staff Watershed Coordinators will perform no less than 15 site visits each year to inspect various stormwater BMPs pre-, during-, and post-construction.		**On track to achieve outcomes.** *While the BMP was exceeded, additional site visits to urban project areas need to be made.*	**On track to achieve outcomes.** *While the number of BMPs and projects funded was exceeded, additional site visits to urban project areas need to be made.*	**On track to achieve outcomes.** *The number of urban BMPs increased sharply, but additional site visits to urban project areas need to be made.*	**Insufficient progress.** *Too few BMPs were installed, and too few staff site visits were conducted.*	
	Failing Septic	• Fund the repair/replacement of no less than 20 failing septic systems each year, depending on the number of active projects that address failing septic systems. • Staff Watershed Coordinators will perform no less than 20 site visits each year to inspect work on repair/replacement of failing septic systems.		**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Insufficient progress.** *Only 14 septic system repair/replacements were made in FFY2022.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	
	Legacy Mining	• Fund no less than 1 project addressing legacy mining concerns each year, depending on the number and quality of proposals received. • Fund no less than 1 BMP addressing legacy mining concerns each year, depending on the number of active legacy mining projects. • Staff Watershed Coordinators will perform no less than 1 site visit each year to inspect legacy mining BMPs pre-, during-, and post-construction, depending on the number of active legacy mining projects.		**Insufficient progress.** *No legacy mining-related proposals were received, and no BMPs were completed this fiscal year.*	**Insufficient progress.** *No legacy mining-related proposals were received, no BMPs were completed this fiscal year, and no site visits were conducted for this sector.*	**Insufficient progress.** *No legacy mining-related proposals were received, no BMPs were completed this fiscal year, and no site visits were conducted for this sector.*	**On track to achieve outcomes.** *Four legacy mining practices were funded; however, no staff site visits were conducted for this sector.*	
Long Term Goal No. 2: Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various	Aggregate	• TN-NPS staff will attend/participate in at least 10 educational events each year. • Fund at least 20 educational events each year, depending on the number of active NPS pollution educational projects funded. • Document at least 2,000 citizens	• Improve relations with stakeholders, potential applicants, and partners. • Increase awareness of nonpoint source impacts.	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES								
Long Term Goal (5 year)	**Sector**	**Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)**	**Outcomes**	**Progress Made in Year 1 (FFY2020)**	**Progress Made in Year 2 (FFY2021)**	**Progress Made in Year 3 (FFY2022)**	**Progress Made in Year 4 (FFY2023)**	**Progress Made in Year 5 (FFY2024)**
audiences.		presented with messages addressing NPS pollution sources, problems, and solutions each year. • Develop a general evaluation form to be completed by all participants at the conclusion of each educational event.						
	Agriculture	• TN-NPS staff will attend/participate in at least 4 educational events each year targeting an agricultural audience. • Fund at least 5 educational events targeting an agricultural audience. • Document at least 600 citizens presented with messages addressing NPS pollution sources, problems, and solutions. • Respond to 100% of Animal Feeding Operations complaints . • Direct AFO owner/operators to NRCS for mitigation, as necessary.		**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	
	Forestry	• TN-NPS staff will attend/participate in at least 1 educational event each year targeting a forestry audience. • Fund at least 1 educational events each year targeting a forestry audience, depending on the number of active projects aimed at forestry issues. • Document at least 200 citizens presented with messages addressing NPS pollution concerns stemming from forestry-related activities.		**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	
	Urban	• TN-NPS staff will attend/participate in at least 3 educational events each year targeting an urban/suburban audience. • Fund at least 10 educational events each year targeting an urban/suburban audience, depending on the number of active projects aimed at urban/suburban issues. • Document at least 1,000 citizens presented with messages addressing NPS pollution concerns stemming from stormwater in urban/suburban areas.		**On track to achieve outcomes.** *While the goal of 1,000 citizens reached with urban NPS messaging was exceeded, more educational events are needed.*	**On track to achieve outcomes.** *The number of educational events funded was exceeded; however, the total number of citizens reached failed to reach our goal.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**On track to achieve outcomes.** *The number of citizens reached exceeded the goal; however, too few events were funded.*	

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES								
Long Term Goal (5 year)	**Sector**	**Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)**	**Outcomes**	**Progress Made in Year 1 (FFY2020)**	**Progress Made in Year 2 (FFY2021)**	**Progress Made in Year 3 (FFY2022)**	**Progress Made in Year 4 (FFY2023)**	**Progress Made in Year 5 (FFY2024)**
	Failing Septic	• TN-NPS staff will attend/participate in at least 1 educational event each year targeting an audience with failing septic concerns. • Fund at least 1 educational event each year targeting an audience concerned with NPS pollution from failing septic systems. • Document at least 100 citizens presented with messages addressing NPS pollution concerns stemming from failing septic systems.		**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	
	Legacy Mining	• TN-NPS staff will attend/participate in at least 1 educational event each year targeting an audience dealing with legacy mining concerns. • Fund at least 1 educational event each year targeting an audience concerned with NPS pollution from legacy mining activities. • Document at least 100 citizens presented with messages addressing NPS pollution concerns stemming from legacy mining activities.		**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All short term goals for this segment were met or exceeded.*	
Long Term Goal No. 3: Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.	Aggregate	• TN-NPS staff will attend at least 8 stakeholder meetings each year to promote the TN-NPS program and recruit and cultivate new partners for future projects. • TN-NPS program will conduct an annual survey of partners, seeking their input for ways our program can improve and better meet existing needs. • TN-NPS staff will provide assistance (as requested) in writing Watershed Based Plans; particularly map-making and load reduction estimates. • TN-NPS program will improve information and tools available on our website to aid in the writing of Watershed Based Plans. • TN-NPS staff will attend at least 3 workshops to promote the 319 program	• Improve relations with stakeholders, potential applicants, and partners. • Increase awareness of nonpoint source impacts. • Educate citizens regarding management practices to prevent or minimize nonpoint source pollution.	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector except for the development of online Watershed Based Planning tools.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *Most goals were met or exceeded; however, additional work to make watershed based planning tools available online needs to be completed.*	

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES								
Long Term Goal (5 year)	**Sector**	**Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)**	**Outcomes**	**Progress Made in Year 1 (FFY2020)**	**Progress Made in Year 2 (FFY2021)**	**Progress Made in Year 3 (FFY2022)**	**Progress Made in Year 4 (FFY2023)**	**Progress Made in Year 5 (FFY2024)**
		each year.						
	Agriculture	• TN-NPS staff will attend at least 3 stakeholder meetings or workshops to promote the 319 program each year.		**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	
	Forestry	• TN-NPS staff will attend at least 1 stakeholder meeting (e.g., TN Forestry Association or the TN Urban Forestry Council) each year to promote the TN-NPS program.		**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	
	Urban	• TDA-NPS staff will attend at least 2 stakeholder meetings each year to promote the TN-NPS program. • TN-NPS staff will attend the annual meeting of the Tennessee Stormwater Association (TNSA) each year.		**Exceeded expectations.** *All applicable short term goals for this segment were exceeded.*	**On track to achieve goals.** *Although the number of stakeholder meeting attended was exceeded, no urban-specific regional meetings were attended.*	**Exceeded expectations.** *All applicable short term goals for this segment were met or exceeded.*	**Exceeded expectations.** *All applicable short term goals for this segment were met or exceeded.*	
	Failing Septic	• TN-NPS staff will attend at least 1 stakeholder meeting each year to promote the TN-NPS program.		**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	
	Legacy Mining	• TN-NPS staff will attend at least 1 stakeholder meeting each year to promote the TN-NPS program.		**Insufficient progress.** *No legacy mining stakeholder meetings were attended by staff.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	**Exceeded expectations.** *All short term goals for this segment were exceeded.*	
Long Term Goal No. 4: Track interim progress towards restoration of impaired water bodies.	Aggregate	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.	• Increase knowledge of effective and efficient sector-specific BMPs and improve measures of success tracking.	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	
	Agriculture	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities,		**On track to achieve goals**. *All goals met for*	**On track to achieve goals**. *All goals met for*	**On track to achieve goals**. *All goals met for this*	**On track to achieve goals**. *All goals met for*	

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES								
Long Term Goal (5 year)	**Sector**	**Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)**	**Outcomes**	**Progress Made in Year 1 (FFY2020)**	**Progress Made in Year 2 (FFY2021)**	**Progress Made in Year 3 (FFY2022)**	**Progress Made in Year 4 (FFY2023)**	**Progress Made in Year 5 (FFY2024)**
		pollutant load reductions, and capacity building efforts.		*this sector.*	*this sector.*	*sector.*	*this sector.*	
	Forestry	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.		**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	
	Urban	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.		**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	
	Failing Septic	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.		**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	
	Legacy Mining	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.		**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	**On track to achieve goals**. *All goals met for this sector.*	
Long Term Goal No. 5: Protect unimpaired/high quality waters (i.e., those not on the 303(d) list) by implementing appropriate BMPs where warranted.	Aggregate	• Consider funding at least 1 project proposal aimed at protection of unimpaired water body each year, dependent upon nature of proposals received.	• Research possible avenues to increase the funding of protective projects.	**On track to achieve goals**. *All goals met for this sector.*	**Not applicable.** *No protection-based proposals were received this fiscal year.*	**Not applicable.** *No protection-based proposals were received this fiscal year.*	**Not applicable.** *No protection-based proposals were received this fiscal year.*	
	Agriculture	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	
	Forestry	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	
	Urban	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	
	Failing Septic	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	
	Legacy Mining	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES								
Long Term Goal (5 year)	**Sector**	**Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)**	**Outcomes**	**Progress Made in Year 1 (FFY2020)**	**Progress Made in Year 2 (FFY2021)**	**Progress Made in Year 3 (FFY2022)**	**Progress Made in Year 4 (FFY2023)**	**Progress Made in Year 5 (FFY2024)**
Long Term Goal No. 6: Fulfill all obligations under grant award agreement with USEPA annually.	Aggregate	• TN-NPS program will do everything necessary to achieve "Satisfactory Progress" determination by USEPA each year. • TN-NPS program will submit an Annual Report by December 31 each year. • TN-NPS program will submit a Grant Application by September 30 each year. • TN-NPS program will submit an Annual Workplan by May 31 each year. • All grant data will be entered in the Grants Reporting and Tracking System (GRTS) by the various deadlines given each year. • All grant funds received will be obligated within one year of the date the grant is received. • Each grant received from USEPA will be matched my no less than 40% by a combination of state and local funds. • TN-NPS staff will attend the annual GRTS users meeting each year. • TN-NPS staff will attend the National Nonpoint Source Managers meeting as often as it is held. • TN-NPS staff will attend the Regional Nonoint Source Managers meeting as often as it is held. • TN-NPS program will revise the Management Program Document every 5 years, or as required by USEPA.	• Continue to receive 319 grant funds for statewide disbursement.	**On track to achieve goals**. *Most goals were met for this sector; however, the revisions to the Management Program Document still need to be finalized and the FFY21 Grant Application is currently pending.*	**Insufficient progress.** *The Management Program Document is still pending, and two deadlines were not met.*	**Insufficient progress.** *The Management Program Document is still pending, and one contract from FFY2021 was pending (as of the date of this document.*	**Insufficient progress.** *Several key program deadlines were missed in FFY2023, including the allocation of funds and the grant application.*	
	Agriculture	• Not Applicable - grant award obligations are not defined by pollutant sector.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	
	Forestry	• Not Applicable - grant award obligations are not defined by pollutant sector.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	
	Urban	• Not Applicable - grant award obligations are not defined by pollutant sector.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	
	Failing Septic	• Not Applicable - grant award obligations are not defined by pollutant sector.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	

LONG TERM GOALS, ANNUAL GOALS, and OUTCOMES								
Long Term Goal (5 year)	**Sector**	**Annual Goals (outputs; Annual Goal x 5 = Long Term Goal measure)**	**Outcomes**	**Progress Made in Year 1 (FFY2020)**	**Progress Made in Year 2 (FFY2021)**	**Progress Made in Year 3 (FFY2022)**	**Progress Made in Year 4 (FFY2023)**	**Progress Made in Year 5 (FFY2024)**
	Legacy Mining	• Not Applicable - grant award obligations are not defined by pollutant sector.		**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	**Not applicable.** *This goal does not apply.*	

Note: The table above will be populated each year as the program is evaluated. Annual tracking will assist with adaptive management measures needed for keeping the TN-NPS program moving in the right direction.

Conclusion

Administratively, more attention needs to be paid to meeting program deadlines. Several metrics regarding staff site visits were not met this year; whether this is an issue with record-keeping / logging site visits, or a true missed goal (or a combination of the two) has not fully been determined. Positively, the legacy mining sector has experienced a renewal of interest by our partners, and progress is being made in that sector. In FFY2023, the TN-NPS received only seven proposals. Coupled with fewer BMPs being installed than in previous years, the apparent lagging interest in Section 319 watershed work is concerning. Additional investigation into why recruitment is struggling should be conducted.

APPENDIX B

MEASURES OF SUCCESS CHECKLISTS

Measures of Success Checklist

Aggregate/Statewide Goals

Prepared for FFY2023 Annual Report

Measures of Success			
Long Term Goal	**Short Term Measure(s) of Success**	**Status**	**Comments**
Long Term Goal No. 1: Restore impaired water bodies by implementing best management practices (BMPs) that address nonpoint source pollution.	• Restore 2 water bodies every other year, on average (based on the biennial *List of Impaired Waters* as developed by TDEC).	☒ Met □ Exceeded □ Needs improvement	In January 2023, a Success Story for Lytle Creek was submitted. It was accepted by EPA Headquarters in October 2023.
	• Reduce N load by 5,000 lbs/year; P_2O_5 load by 5,000 lbs/year; and sediment load by 200 ton/year (minimum reductions).	□ Met ☒ Exceeded □ Needs improvement	All load reduction goals for nitrogen, phosphorus, and sediment were exceeded.
Long Term Goal No. 2: Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various audiences.	• TN-NPS staff will attend/participate in at least 10 educational events each year.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff participated in 100 educational workshops in FFY2023.
	• Fund at least 20 educational events each year, depending on the number of active NPS pollution educational projects funded.	□ Met ☒ Exceeded □ Needs improvement	In FFY2023, TN-NPS funded 30 in-person education and outreach events, as well as 15 newsletters/social media posts.
	• Document at least 2,000 citizens presented with messages addressing NPS pollution sources, problems, and solutions each year.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff alone reached over 3,700 citizens during presentations in FFY2023.
	• Implement a general evaluation form to be completed by all participants and the conclusion of each educational event.	☒ Met □ Exceeded □ Needs improvement	

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal No. 3: Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.	• TN-NPS staff will attend at least 8 stakeholder meetings each year to promote the TN-NPS program and recruit and cultivate new partners for future projects.	□ Met ☒ Exceeded □ Needs improvement	In FFY2023, staff presented at over 60 stakeholder meetings.
	• TN-NPS program will conduct an annual survey of partners, seeking their input for ways our program can improve and better meet existing needs.	☒ Met □ Exceeded □ Needs improvement	The annual participant survey was conducted in June and July, 2023. FFY2023 saw a much better response rate than the previous year.
	• TN-NPS staff will provide assistance (as requested) in writing Watershed Based Plans; particularly map-making and load reduction estimates.	☒ Met □ Exceeded □ Needs improvement	Training for watershed based planning and 319 proposal development was provided virtually in FFY2023.
	• TN-NPS program will improve information and tools available on our website to aid in the writing of Watershed Based Plans.	□ Met □ Exceeded ☒ Needs improvement	
	• TN-NPS staff will attend at least 3 stakeholder meetings or workshops to promote the 319 program each year.	□ Met ☒ Exceeded □ Needs improvement	Staff attended 100 stakeholder meetings and 25 workshops/ outreach events in FFY2023.
Long Term Goal No. 4: Track interim progress towards restoration of impaired water bodies via adaptive management process.	• Continue the implementation a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.	☒ Met □ Exceeded □ Needs improvement	
Long Term Goal No. 5: Protect unimpaired/ high quality waters (i.e., those not on the list of impaired waters) by implementing appropriate BMPs where warranted.	• Consider funding at least 1 project proposal aimed at protection of unimpaired water body each year, dependent upon nature of proposals received.	□ Met □ Exceeded □ Needs improvement	N/A; no protection project proposals were received for funding this fiscal year.

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal No. 6: Fulfill all obligations under grant award agreement with USEPA annually.	• TN-NPS program will do everything necessary to achieve "Satisfactory Progress" determination by USEPA each year.	☒ Met □ Exceeded □ Needs improvement	
	• TN-NPS program will submit an Annual Report by December 31 each year.	☒ Met □ Exceeded □ Needs improvement	
	• TN-NPS program will submit a Grant Application by September 30 each year.	□ Met □ Exceeded ☒ Needs improvement	The grant application was not submitted until November 22, 2022.
	• TN-NPS program will submit an Annual Workplan by May 31 each year.	□ Met □ Exceeded ☒ Needs improvement	The workplan was submitted in August, 2023.
	• All grant data will be entered in the Grants Reporting and Tracking System (GRTS) by the various deadlines given each year.	□ Met ☒ Exceeded □ Needs improvement	GRTS data is updated continuously.
	• All grant funds received will be obligated within one year of the date the grant is received.	□ Met □ Exceeded ☒ Needs improvement	As of the time of this document development, one contract, for the Monroe County Soil and Water Conservation District - Sweetwater Creek, from FFY2022 is still pending.
	• Each grant received from USEPA will be matched my no less than 40% by a combination of state and local funds.	☒ Met □ Exceeded □ Needs improvement	
	• TN-NPS staff will attend the annual GRTS users meeting each year.	□ Met □ Exceeded □ Needs improvement	N/A; no GRTS meeting was held this year.

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal 6, cont.	• TN-NPS staff will attend the National Nonpoint Source Managers meeting as often as it is held.	☒ Met □ Exceeded □ Needs improvement	Sam Marshall attended the National NPS meeting in November, 2023
	• TN-NPS staff will attend the Regional Nonpoint Source Managers meeting as often as it is held.	□ Met □ Exceeded □ Needs improvement	N/A; this meeting was not held this fiscal year.
	• TN-NPS program will revise the Management Program Document every 5 years, or as required by USEPA.	□ Met □ Exceeded ☒ Needs improvement	Revisions for the most recent version of the Management Program Document are currently pending.

If the short term has been met or exceeded, please provide an explanation of how this was determined (i.e. list of objectives completed, activities performed, etc.):

Staff met or exceeded the goals set for outreach, education, and community involvement. Partners also met or exceeded outreach engagement goals.

If the short term has not been met, please provide an explanation of the variance:

Additional work needs to be done to ensure that all funds are awarded within a reasonable timeframe. as well as meeting grant-mandated deadlines.

Measures of Success Checklist

Agricultural Sector Short Term Goals

Prepared for FFY2023 Annual Report

Measures of Success			
Long Term Goal	**Short Term Measure(s) of Success**	**Status**	**Comments**
Long Term Goal No. 1: Restore impaired water bodies by implementing best management practices (BMPs) that address nonpoint source pollution.	• Fund no less than 3 projects each year that address agricultural sources of NPS pollution, depending on the number and quality of proposals received.	☒ Met □ Exceeded □ Needs improvement	Three projects funded in FFY2023 impact agriculture either directly (installing practices) or indirectly (education or monitoring).
	• Fund the implementation of no less than 65 agricultural BMPs per year.	□ Met ☒ Exceeded □ Needs improvement	Over 75 agricultural practices were installed in FFY2023.
	• Staff Watershed Coordinators will perform no less than 200 site visits each year to inspect BMPs pre-, during-, and post-construction.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff recorded approximately 1,500 agricultural site visits.
Long Term Goal No. 2: Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various audiences.	• TN-NPS staff will attend/participate in at least 4 educational events each year targeting an agricultural audience.	□ Met ☒ Exceeded □ Needs improvement	In FFY2023, TN-NPS staff presented at 10 educational workshops about agricultural topics.
	• Fund at least 5 educational events targeting an agricultural audience.	□ Met ☒ Exceeded □ Needs improvement	Over 20 educational events were held by partners in FFY2023 to instruct on agricultural topics.
	• Document at least 600 citizens presented with messages addressing NPS pollution sources, problems, and solutions.	□ Met ☒ Exceeded □ Needs improvement	Over 15,000 citizens have been reached through a combination of mailers, magazine articles, workshops, and field days.
	• Respond to 100% of Animal Feeding Operations complaints.	☒ Met □ Exceeded □ Needs improvement	
	• Direct AFO owner/operators to NRCS for mitigation, as necessary.	☒ Met □ Exceeded □ Needs improvement	

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal No. 3: Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.	• TN-NPS staff will attend at least 3 stakeholder meetings each year to promote the TN-NPS program and recruit and cultivate new partners for future projects.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff attended over 50 stakeholder meetings in FFY2023.
Long Term Goal No. 4: Track interim progress towards restoration of impaired water bodies via adaptive management process.	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.	☒ Met □ Exceeded □ Needs improvement	
Long Term Goal No. 5: Protect unimpaired/high quality waters (i.e., those not on the list of impaired waters) by implementing appropriate BMPs where warranted.	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.	N/A	
Long Term Goal No. 6: Fulfill all obligations under grant award agreement with USEPA annually.	• Not Applicable - grant award obligations are not defined by pollutant sector.	N/A	

If the short term has been met or exceeded, please provide an explanation of how this was determined (i.e. list of objectives completed, activities performed, etc.):

All the goals for this sector were met or exceeded in FFY2023 based on tracked attendance by TN-NPS.

If the short term has not been met, please provide an explanation of the variance:

N/A; all the goals for this sector were met or exceeded in FFY2023.

Measures of Success Checklist

Forestry Sector Short Term Goals

Prepared for FFY2023 Annual Report

Measures of Success			
Long Term Goal	**Short Term Measure(s) of Success**	**Status**	**Comments**
Long Term Goal No. 1: Restore impaired water bodies by implementing best management practices (BMPs) that address nonpoint source pollution.	• Fund no less than 1 forestry-based project each year, depending on the number and quality of proposals received.	□ Met □ Exceeded □ Needs improvement	N/A; other than the TDEC monitoring proposal (which indirectly impacts all sectors), no forestry proposals were received in FFY2023.
	• Fund the implementation of no less than 5 forestry BMPs each year, depending on the number of active forestry restoration projects.	□ Met □ Exceeded ☒ Needs improvement	Three forestry practices (as self-reported by subrecipients) were funded in FFY2023.
Long Term Goal No. 2: Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various audiences.	• TN-NPS staff will attend/participate in at least 1 educational event each year targeting a forestry audience.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff presented at six workshops and 12 stakeholder meetings that addressed forestry issues in FFY2023.
	• Fund at least 1 educational events each year targeting a forestry audience, depending on the number of active projects aimed at forestry issues.	☒ Met □ Exceeded □ Needs improvement	In FFY2023, two educational events addressed forestry issues (although none were targeted specifically at forestry/silviculture).
	• Document at least 200 citizens presented with messages addressing NPS pollution concerns stemming from forestry-related activities.	☒ Met □ Exceeded □ Needs improvement	In FFY2023, approximately 1,500 citizens were reached about all sectors of NPS through partners' efforts (although none were targeted specifically at forestry topics).

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal No. 3: Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.	• TN-NPS staff will attend at least 1 stakeholder meeting (e.g., TN Forestry Association or the TN Urban Forestry Council) each year to promote the TN-NPS.	□ Met ☒ Exceeded □ Needs improvement	Staff attended 16 stakeholder meetings that addressed forestry-related issues.
Long Term Goal No. 4: Track interim progress towards restoration of impaired water bodies via adaptive management process.	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.	☒ Met □ Exceeded □ Needs improvement	
Long Term Goal No. 5: Protect unimpaired/ high quality waters (i.e., those not on the list of impaired waters) by implementing appropriate BMPs where warranted.	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.	N/A	
Long Term Goal No. 6: Fulfill all obligations under grant award agreement with USEPA annually.	• Not Applicable - grant award obligations are not defined by pollutant sector.	N/A	

If the short term has been met or exceeded, please provide an explanation of how this was determined (i.e. list of objectives completed, activities performed, etc.):

Forestry education continues to be a relatively strong metric for TN-NPS. In addition, TN-NPS partners with the Division of Forestry for additional outreach efforts.

If the short term has not been met, please provide an explanation of the variance:

Interest in Section 319-funded forestry projects continues to lag, as well as the installation of BMPs. More recruitment efforts for the forestry sector should be undertaken by TN-NPS moving forward.

Measures of Success Checklist

Urban Sector Short Term Goals

Prepared for FFY2023 Annual Report

Measures of Success			
Long Term Goal	**Short Term Measure(s) of Success**	**Status**	**Comments**
Long Term Goal No. 1: Restore impaired water bodies by implementing best management practices (BMPs) that address nonpoint source pollution.	• Fund no less than 2 projects focused on stormwater issues in developed areas each year, depending on the number and quality proposals received. • Fund no less than 12 stormwater BMPs each year, depending on the number of active urban/suburban restoration projects. • Staff Watershed Coordinators will perform no less than 15 site visits each year to inspect various stormwater BMPs pre-, during-, and post-construction.	□ Met ☒ Exceeded □ Needs improvement □ Met □ Exceeded ☒ Needs improvement □ Met □ Exceeded ☒ Needs improvement	Five projects that address urban issues (watershed and educational) were funded in FFY2023, representing the largest sector for this cycle. Only eight urban practices were installed in FFY2023, a dramatic decrease from previous years. Staff conducted only 14 urban-based site visits in FFY2023.
Long Term Goal No. 2: Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various audiences.	• TN-NPS staff will attend/participate in at least 3 educational events each year targeting an urban/surburban audience. • Fund at least 10 educational events each year targeting an urban/suburban audience, depending on the number of active projects aimed at urban/surburban. • Document at least 1,000 citizens presented with messages addressing NPS pollution concerns stemming from stormwater in urban/suburban areas.	☒ Met □ Exceeded □ Needs improvement □ Met □ Exceeded ☒ Needs improvement □ Met ☒ Exceeded □ Needs improvement	TN-NPS staff participated in three educational workshops that addressed urban issues. In FFY2023, only 4 education events focused on urban issues were funded. About 1,500 citizens were educated on urban issues through events and media.

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal No. 3: Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.	• TN-NPS staff will attend at least 2 stakeholder meetings each year to promote the TN-NPS program. • TN-NPS staff will attend the annual meeting of the Tennessee Stormwater Association (TNSA), American Water Resources Association, or equivalent, each year.	□ Met ☒ Exceeded □ Needs improvement ☒ Met □ Exceeded □ Needs improvement	TN-NPS staff attended 13 stakeholder meetings that addressed urban NPS pollution in FFY2023. Macee Fredlake attended the American Water Resources Association (AWRA) on April 13, 2023.
Long Term Goal No. 4: Track interim progress towards restoration of impaired water bodies via adaptive management process.	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.	☒ Met □ Exceeded □ Needs improvement	
Long Term Goal No. 5: Protect unimpaired/ high quality waters (i.e., those not on the list of impaired waters) by implementing appropriate BMPs where warranted.	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.	N/A	
Long Term Goal No. 6: Fulfill all obligations under grant award agreement with USEPA annually.	• Not Applicable - grant award obligations are not defined by pollutant sector.	N/A	

If the short term has been met or exceeded, please provide an explanation of how this was determined (i.e. list of objectives completed, activities performed, etc.):

Goals for staff outreach were exceeded in FFY2023 (based on self-reported logs). In addition, partners reported reaching more citizens in FFY2023 with urban-based information.

If the short term has not been met, please provide an explanation of the variance:

Additional practices and educational events need to be funded to meet current sector goals, as several metrics were not met in FFY2023 for the urban sector.

Measures of Success Checklist

Failing Septic Sector Short Term Goals

Prepared for FFY2023 Annual Report

Measures of Success			
Long Term Goal	**Short Term Measure(s) of Success**	**Status**	**Comments**
Long Term Goal No. 1: Restore impaired water bodies by implementing best management practices (BMPs) that address nonpoint source pollution.	• Fund the repair/replacement of no less than 20 failing septic systems each year, depending on the number of active projects that address failing septic systems.	□ Met ☒ Exceeded □ Needs improvement	Twenty-five failing septic systems were repaired or replaced in FFY2023, despite competition from other government programs assisting with septic repairs.
	• Staff Watershed Coordinators will perform no less than 20 site visits each year to inspect work on repair/replacement of failing septic systems.	☒ Met □ Exceeded □ Needs improvement	Staff reported conducting only nine site visits related to septic system repairs this fiscal year.
Long Term Goal No. 2: Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various audiences.	• TN-NPS staff will attend/participate in at least 1 educational event each year targeting an audience with failing septic concerns.	□ Met ☒ Exceeded □ Needs improvement	Staff participated in three workshops that addressed septic issues in FFY2023.
	• Fund at least 1 educational event each year targeting an audience concerned with NPS pollution from failing septic systems.	□ Met ☒ Exceeded □ Needs improvement	Partners hosted six events that educated the public about septage issues.
	• Document at least 100 citizens presented with messages addressing NPS pollution concerns stemming from failing septic systems.	□ Met ☒ Exceeded □ Needs improvement	Approximately 120 citizens were reached with information about land disposal in FFY2023. Another 1,500 citizens were reached about all NPS topics by our partners.

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal No. 3: Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.	• TN-NPS staff will attend at least 1 stakeholder meeting each year to promote the TN-NPS program.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff attended seven stakeholder meetings in FFY2023 that addressed septic.
Long Term Goal No. 4: Track interim progress towards restoration of impaired water bodies via adaptive management process.	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.	☒ Met □ Exceeded □ Needs improvement	
Long Term Goal No. 5: Protect unimpaired/ high quality waters (i.e., those not on the list of impaired waters) by implementing appropriate BMPs where warranted.	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.	N/A	
Long Term Goal No. 6: Fulfill all obligations under grant award agreement with USEPA annually.	• Not Applicable - grant award obligations are not defined by pollutant sector.	N/A	

If the short term has been met or exceeded, please provide an explanation of how this was determined (i.e. list of objectives completed, activities performed, etc.):

All education and outreach goals for this sector were met or exceeded for FFY2022.

If the short term has not been met, please provide an explanation of the variance:

Additional site visits for failing septic systems are needed in the future to meet the goal for this sector.

Measures of Success Checklist

Legacy Mining Sector Short Term Goals

Prepared for FFY2023 Annual Report

Measures of Success			
Long Term Goal	**Short Term Measure(s) of Success**	**Status**	**Comments**
Long Term Goal No. 1: Restore impaired water bodies by implementing best management practices (BMPs) that address nonpoint source pollution.	• Fund no less than 1 project addressing legacy mining concerns each year, depending on the number and quality of proposals received.	☒ Met □ Exceeded □ Needs improvement	One proposal (for the Crooked Fork watershed), which addresses legacy mining, was funded in FFY2023.
	• Fund no less than 1 BMP addressing legacy mining concerns each year, depending on the number of active legacy mining projects.	□ Met ☒ Exceeded □ Needs improvement	Four practices to mitigate legacy mining were installed in FFY2023.
	• Staff Watershed Coordinators will perform no less than 1 site visits each year to inspect legacy mining BMPs pre-, during-, and post-construction, depending on the number of active legacy mining projects	□ Met □ Exceeded ☒ Needs improvement	No site visits were performed this fiscal year for legacy mining in FFY2023.
Long Term Goal No. 2: Build citizen awareness of problems and solutions related to nonpoint source pollution through local and statewide education efforts targeting various audiences.	• TN-NPS staff will attend/participate in at least 1 educational event each year targeting an audience dealing with legacy mining concerns.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff participated in two educational workshops that addressed legacy mining pollution issues.
	• Fund at least 1 educational event each year targeting an audience concerned with NPS pollution from legacy mining activities.	□ Met ☒ Exceeded □ Needs improvement	In FFY2023, two educational events taught the public about all sources of NPS pollution. (No funded events involved solely legacy mining topics.)
	• Document at least 100 citizens presented with messages addressing NPS pollution concerns stemming from legacy mining activities.	□ Met ☒ Exceeded □ Needs improvement	Our partners reached approximately 1,500 citizens with messaging about all NPS sectors.

Long Term Goal	Short Term Measure(s) of Success	Status	Comments
Long Term Goal No. 3: Build capacity for future TN-NPS projects in local watersheds by engaging stakeholders and potential partners through outreach and personal contact.	• TN-NPS staff will attend at least 1 stakeholder meeting each year to promote the TN-NPS program.	□ Met ☒ Exceeded □ Needs improvement	TN-NPS staff attended seven stakeholder meeting that addressed legacy mining in FFY2023.
Long Term Goal No. 4: Track interim progress towards restoration of impaired water bodies via adaptive management process.	• Continue the implementation of a sector-based tracking mechanism for BMP implementation, educational activities, pollutant load reductions, and capacity building efforts.	☒ Met □ Exceeded □ Needs improvement	
Long Term Goal No. 5: Protect unimpaired/ high quality waters (i.e., those not on the list of impaired waters) by implementing appropriate BMPs where warranted.	• Not applicable - projects to protect unimpaired waters by definition will not be assigned to any pollutant source.	N/A	
Long Term Goal No. 6: Fulfill all obligations under grant award agreement with USEPA annually.	• Not Applicable - grant award obligations are not defined by pollutant sector.	N/A	

If the short term has been met or exceeded, please provide an explanation of how this was determined (i.e. list of objectives completed, activities performed, etc.):

Most of the short-term goals for the mining sector were met or exceeded for the first time in FFY2023, which appears to indicate a growing interest among partners in legacy mining-related issues.

If the short term has not been met, please provide an explanation of the variance:

As with other sectors, staff site visits in the mining sector have lagged behind the short term goals set.

APPENDIX C

FFY2023 SUCCESS STORY

NONPOINT SOURCE SUCCESS STORY

Tennessee

Urban and Agriculture Best Management Practices Contribute to Full Restoration of Lytle Creek

Waterbody Improved

Lytle Creek was designated as impaired in Tennessee's 2004 Clean Water Act (CWA) section 303(d) list due to poor biological survey results. The Tennessee Environmental Council (TEC), Rutherford County Soil and Water Conservation District (SWCD), and landowners used funding from CWA section 319 and the Tennessee Department of Agriculture's (TDA's) Agricultural Resources Conservation Fund (ARCF) to exclude livestock, replant riparian areas, stabilize streambanks and install a rain garden. In 2022, 10.1 miles of Lytle Creek headwaters were removed from Tennessee's List of Impaired and Threatened Waters for alterations in stream-side or littoral vegetative covers and siltation/sedimentation due to pasture grazing.

Water Quality Challenge

Lytle Creek is in Rutherford County, Tennessee (Figure 1). Much of Middle Tennessee, including Rutherford County, is undergoing rapid growth. From 2010 to 2020, Rutherford County experienced 31.8% population growth (U.S. Census Bureau, 2020). Originally a heavily agrarian area, the Lytle Creek watershed is now home to several subdivisions as it experiences pressure from urban sprawl from the City of Murfreesboro (a suburb of the Greater Nashville Metro area). Large tracts between the subdivisions are still used for agricultural production, primarily livestock pasture grazing and hay/forage. Since 1996, Lytle Creek has been identified as impaired by the Tennessee Department of Environment and Conservation (TDEC) for various sources and causes, including oil and grease from urban runoff/storm sewers and habitat loss from pasture grazing and land development (Figure 2).

In 1998, habitat loss was initially identified by TDEC as a cause of pollution in the Lytle Creek watershed. In 2012, TDEC performed a habitat assessment that provided a total habitat score of 113 (with a minimum total habitat score of 114 needed to meet attainment for that time of year), indicating impairment. From 2012 through 2020, Lytle Creek remained listed for habitat loss due to alteration in stream-side or littoral vegetative cover, loss of biological integrity due to siltation, and *Escherichia coli* (*E. coli*). The sources of impairment were pasture grazing, grazing in riparian or shoreline zones, and land development (note that land development was removed as a source in 2016).

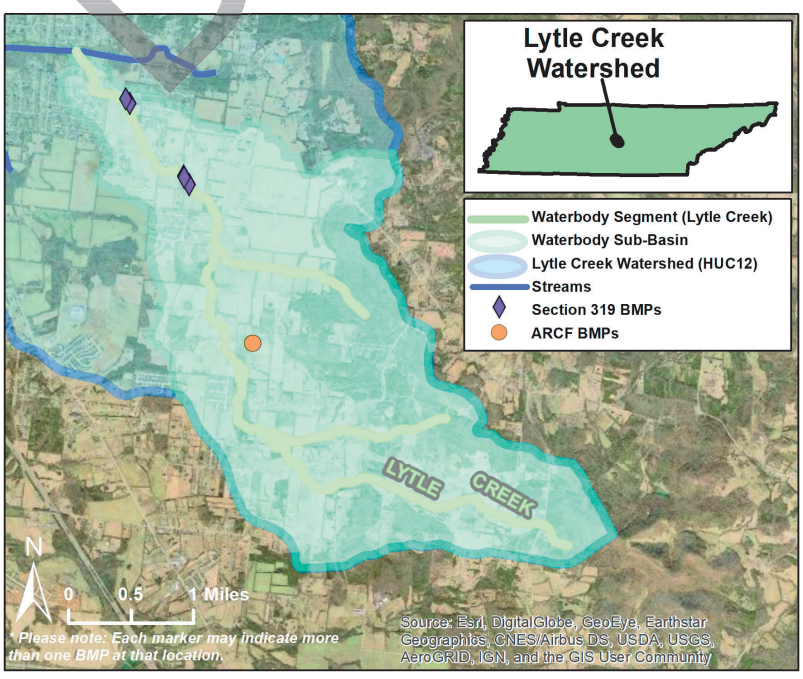


Figure 1. Lytle Creek project location map, Rutherford County, Tennessee.

Project Highlights

During the contract period, TEC installed best management practices (BMPs) in and around Lytle Creek. During the project, over 200 community volunteers were trained in BMP installation (specifically, streambank stabilization using cedar revetments/coconut coir rolls) and advocacy (Figures 4, 5, and 6). TEC also developed a short video highlighting the Lytle Creek project (see https://youtu.be/i0cxb5GorP0).

Figure 2. Lytle Creek, denuded by livestock grazing, before restoration activities in 2018.

Best Management Practice	Number Installed	Units	Comments
Raingarden/ bioretention basin	625	SQUARE FEET	One project supported by 319 funds
Alternative Water Sources	3	INDIVIDUAL UNITS	Three watering troughs supported by ARCF
Heavy Use Area Protection	3	INDIVIDUAL UNITS	Three HUAs (24' X 24' each) supported by ARCF
Pipeline	200	LINEAR FEET	One project supported by ARCF
Streambank & Shoreline Protection	633	FT	Three projects (1-100', 1-413', 1-120') supported by 319 funds
Riparian Forest Buffer	1940	FT	Three projects, totaling over 1,940', supported by 319 funds (one project total provided as 2,100 sq ft)
Stream Exclusion Fencing	2400	FT	Two projects (1-2000', 1-400') supported by 319 funds

Results

In February 2019, TDEC reassessed the habitat in Lytle Creek (Figure 3). During the sampling event, Lytle Creek earned a total habitat score of 124 (with a minimum habitat score of 106, constituting a passing score at that time of year). Due to the significant improvement, the creek was delisted for alteration in stream-side or littoral vegetative covers due to grazing in riparian or shoreline zones.

Tennessee has narrative criteria for siltation/sedimentation impairment that is based on habitat and the waterbody's associated biology. In addition to a habitat assessment previously mentioned, TDEC performed a Semi-Quantitative Single Habitat (SQSH) survey, which evaluates macroinvertebrate communities (associated biology). The target Tennessee Macroinvertebrate Index (TMI) for Lytle Creek is a score of 32; during the February 2019 sampling, Lytle Creek scored 38. As both the habitat and biology had recovered, the narrative criteria for siltation were no longer being violated. This segment of Lytle Creek was removed from Tennessee's 2022 List of Threatened and Impaired Waters for siltation/sedimentation due to grazing in riparian or shoreline zones. This segment of Lytle Creek remains impaired for *E. coli* due to grazing in riparian or shoreline zones.

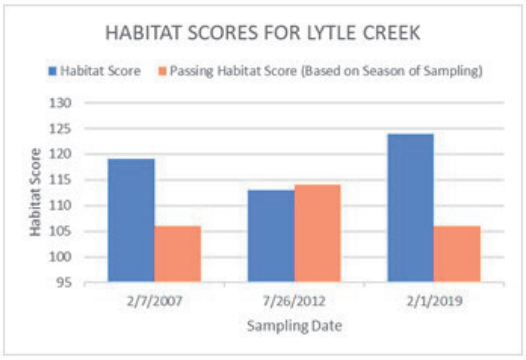


Figure 3. Lytle Creek habitat score changes over time.

Partners and Funding

Lytle Creek was partially restored through the hard work of around 200 community volunteers from the McFadden Community Center, Middle Tennessee State University, Stones River Watershed Association, Rutherford County Rotary Club, City Service Mission, Whole Foods, Eternal Returns, Turner Construction, Davita Services, Volunteer State Community College, and the Cumberland River Compact TEC, and the Rutherford County SWCD. Cost share for practices totaled approximately $60,869, with $56,472 supplied by a CWA section 319 grant and $4,396 provided by ARCF.

Figure 4. Placing and anchoring cedar revetments for streambank stabilization in Lytle Creek, August 2018.

U.S. Environmental Protection Agency
Office of Water
Washington, DC

For additional information contact:
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Tennessee Department of Agriculture
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APPENDIX D

SECTION 319(h) GRANT PARTICIPANT ANNUAL SURVEY

Appendix D
Section 319(h) Grant
Participant Annual Survey

2023

TENNESSEE DEPARTMENT OF AGRICULTURE

2023
Authored by: Land & Water Stewardship Section Staff

Section 319 Applicant Survey

[Soliciting feedback and managing needs]

The survey provides an opportunity for TDA to learn from grantees and applicants, and to gauge grantee satisfaction.

Introduction to the Section 319 Applicant Survey

The annual 319 Applicant Survey was initiated in the Summer of 2015 in order to assess what grant recipients perceived as the strengths and weaknesses of the current TN-NPS Program. The intent of the survey was to determine if specific needs of the grantees were being met. The survey provides an opportunity for TDA to learn from grantees and applicants, and to gather input regarding grantee satisfaction. Based upon the results of the survey, TDA staff will evaluate potential changes to the project selection process, communication, and grant administration (adaptive management). The questions chosen for the 319 Grantee Survey will be reviewed and refined annually.

Survey Methodology

Questions for the Section 319 Applicant Survey were developed in the Spring of 2023. A total of ten questions were chosen in order to get an adequate idea of the level of satisfaction of the grantees with the current process, while not making the survey overly long or onerous. An email list was developed by compiling the contact information for organizations and agencies that had applied for a 319 grant within the previous five years. The email list included both past recipients, and those parties that applied for a 319 grant, but were not chosen to receive funding. The survey questions were developed into a questionnaire using SurveyMonkey, Inc., accessed at: www.surveymonkey.com. A link to the survey was sent to the email list on June 5, 2023. A follow-up reminder was sent to the survey recipients on June 26, 2023. A total of 48 individuals received the survey.

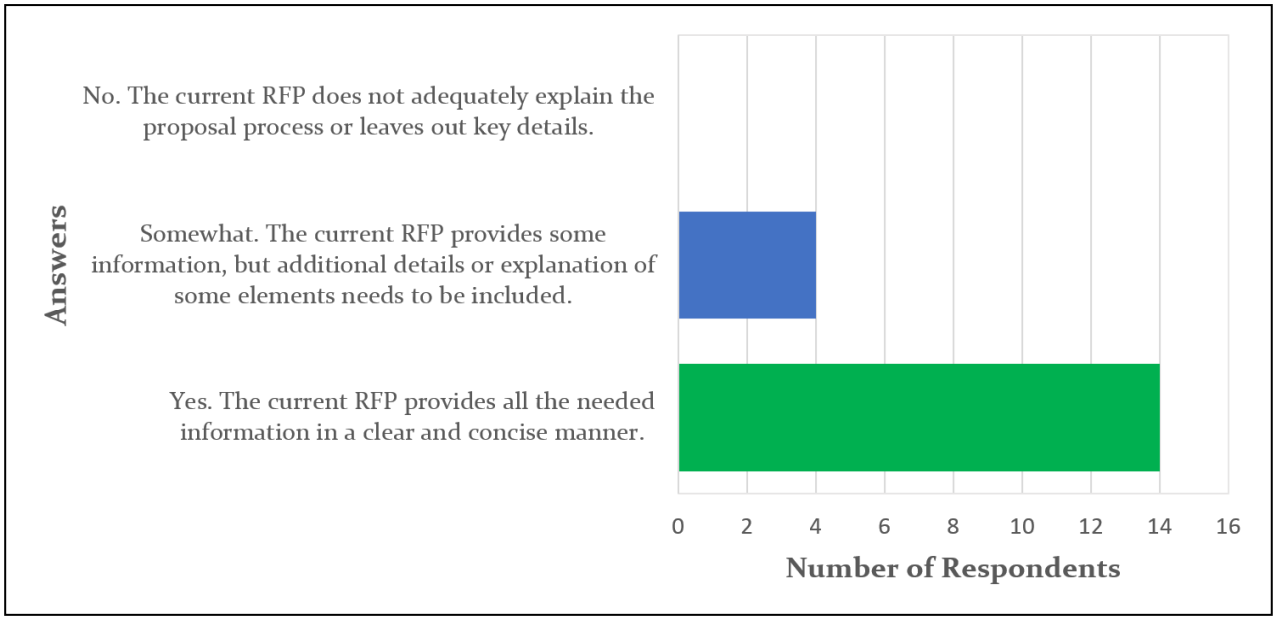
Results

Survey participation was significantly higher in 2023 than in 2022, with 18 participants completing the survey as of the survey close-out on July 11, 2023 (approximately a 43 percent participation rate). It is hoped that the increased engagement will correspond with more proposal submissions and better involvement with the Section 319 grant program moving forward. Please note: none of the questions on the survey were mandatory; that is, participants were able to skip any questions they did not wish to answer.

Question 1: Does the current Request for Proposals (RFP) do a good job of communicating the requirements and expectations for grant proposal applications? *Question Format: Multiple choice.*

A majority of respondents (78 percent) indicated that the current RFP met expectations. Four respondents (22 percent) indicated that they would prefer additional details included in the RFP.

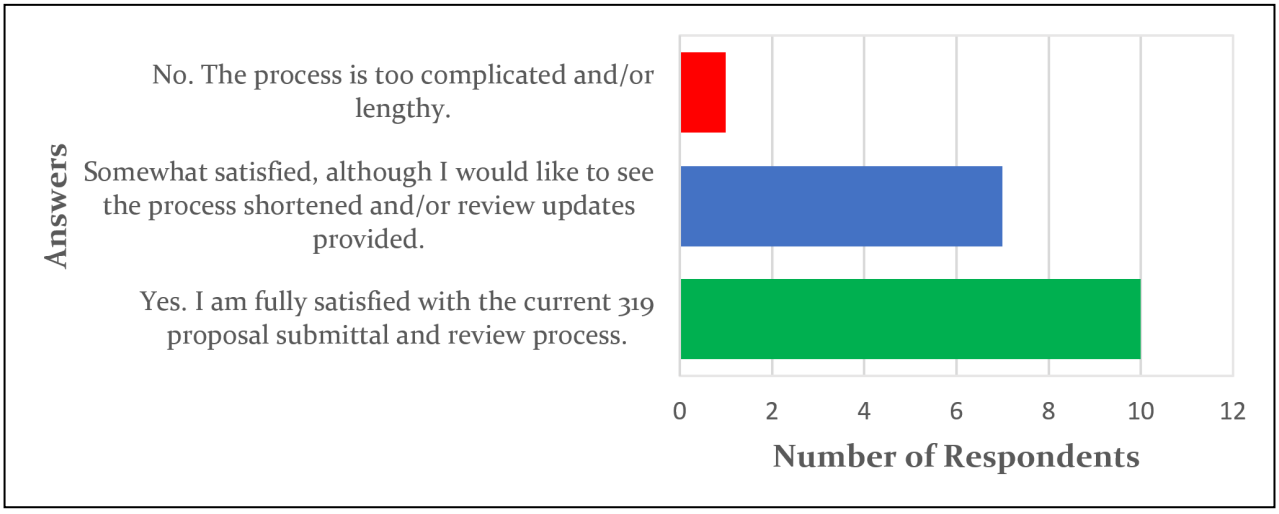
FIGURE 1: DOES THE RFP ADEQUATELY COMMUNICATE APPLICATION REQUIREMENTS



Question 2: Are you satisfied with the current 319 Grant proposal submittal and review process? *Question Format: Multiple choice.*

Just over half of participants (56 percent) indicated that they were satisfied with the current 319 Grant proposal process. Approximately 39 percent were somewhat satisfied with the submittal and review process, while 6 percent were not satisfied.

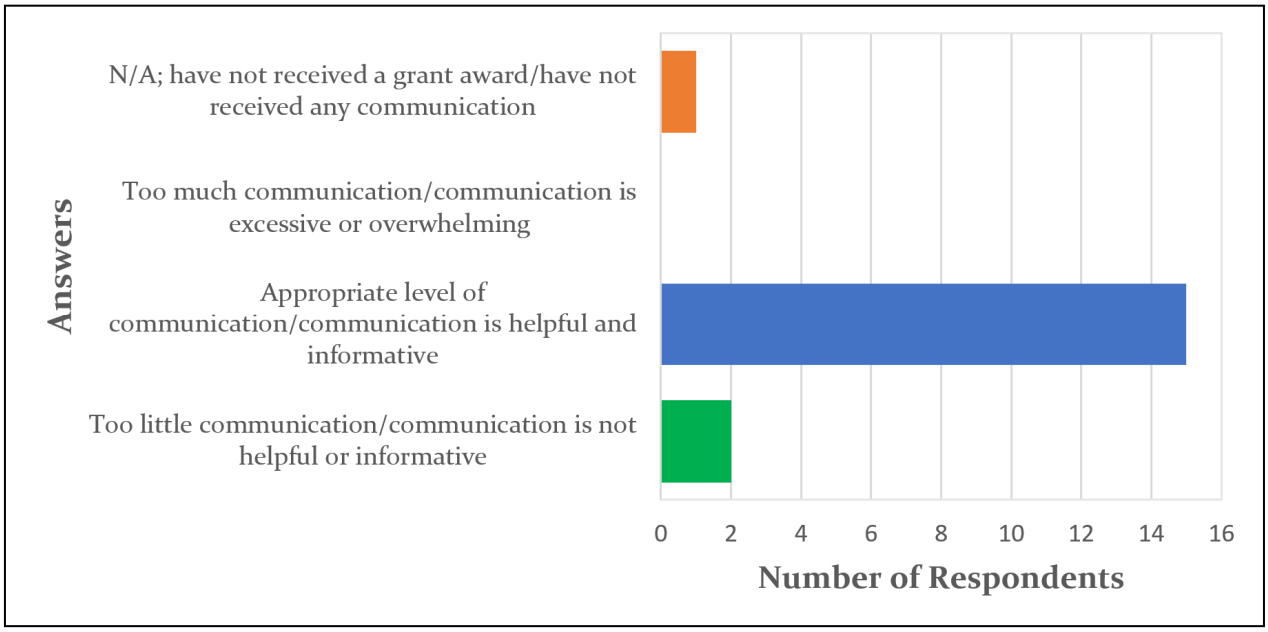
FIGURE 2: SATISFIED WITH THE CURRENT 319 GRANT PROPOSAL PROCESS



Question 3: If you are a past or present grant recipient, are you satisfied with the quantity and quality of communication and contact you receive from the TDA-Nonpoint Source Program? Please rate the current quality of communication. *Question Format: Multiple choice.*

Over 80 percent of the survey participants were satisfied with the level of communication from the TDA-Nonpoint Source Program. Approximately 11 percent of respondents felt they received too little communication, with about 6 percent indicating they had not received any communication.

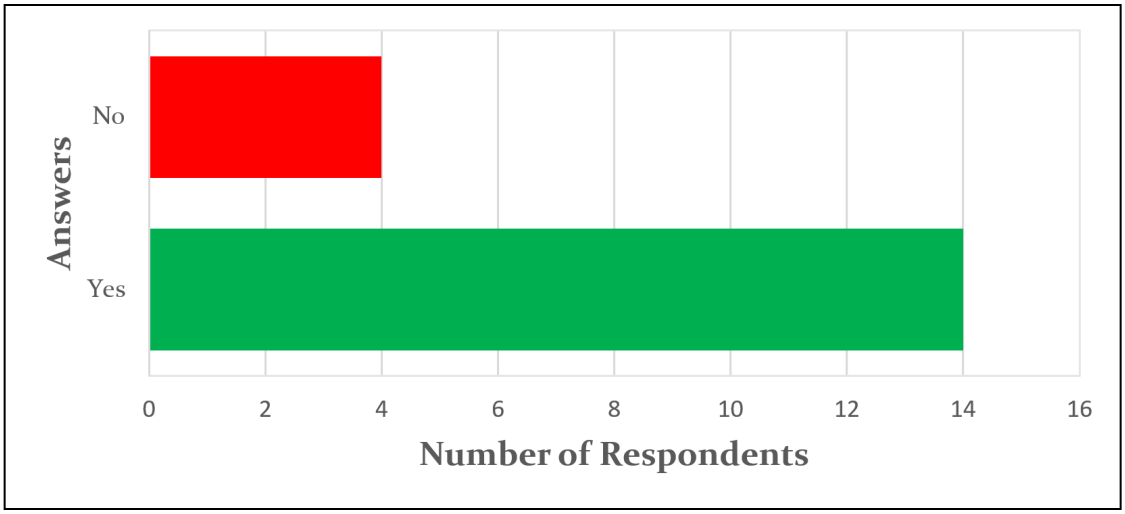
FIGURE 3: SATISFIED WITH CURRENT LEVEL OF COMMUNICATION



Question 4: Would a greater TDA-Nonpoint Source Program social media presence, where information could be posted about upcoming events, successes, and/or funding opportunities be helpful to you or your organization? *Question Format: Yes or no.*

Contrary to last year's results, this year's participants overwhelmingly (78 percent) indicated that a greater social media presence would be beneficial. Approximately 12 percent (4 respondents) felt additional social media presence would not be helpful.

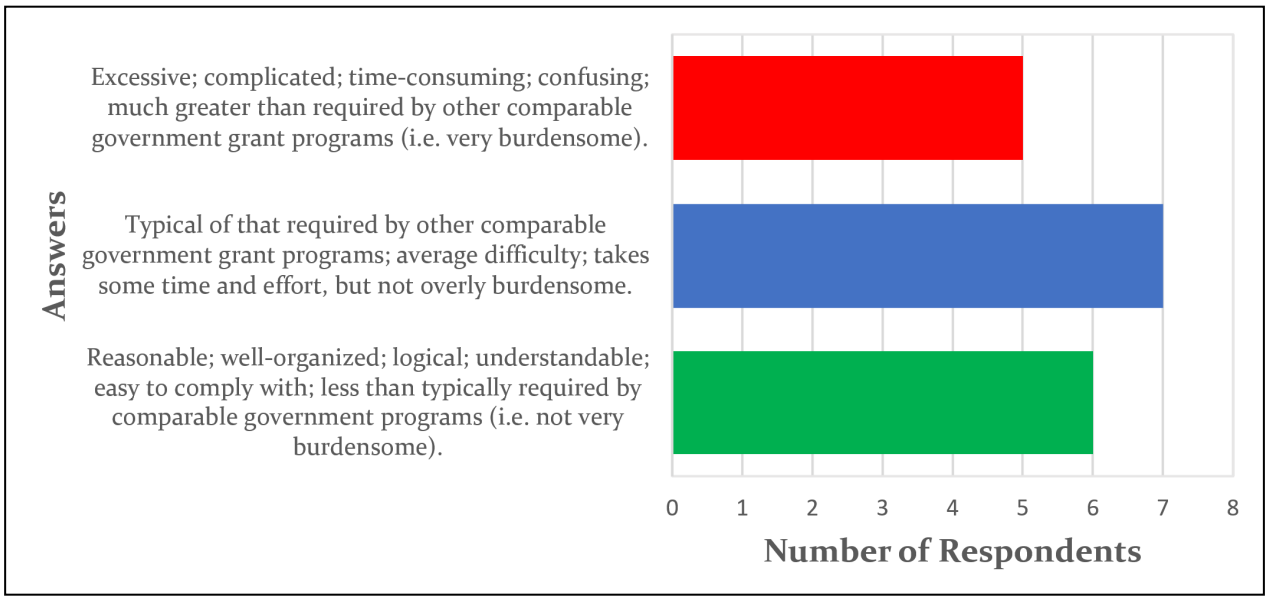
FIGURE 4: WOULD SOCIAL MEDIA PRESENCE BE HELPFUL



Question 5: Which of the following characterizations best describes your feelings regarding the amount of paperwork and reporting required for a 319 Grant in Tennessee? *Question Format: Multiple choice.*

Respondents feeling on the administrative burden for the Section 319 grant for this year's survey was mixed. About a third of respondents (6 individuals) indicated the paperwork volume was reasonable, with 39 percent answering that the administration was typical of other grant programs. About 27 percent (5 respondents) indicated that the administrative burden was excessive.

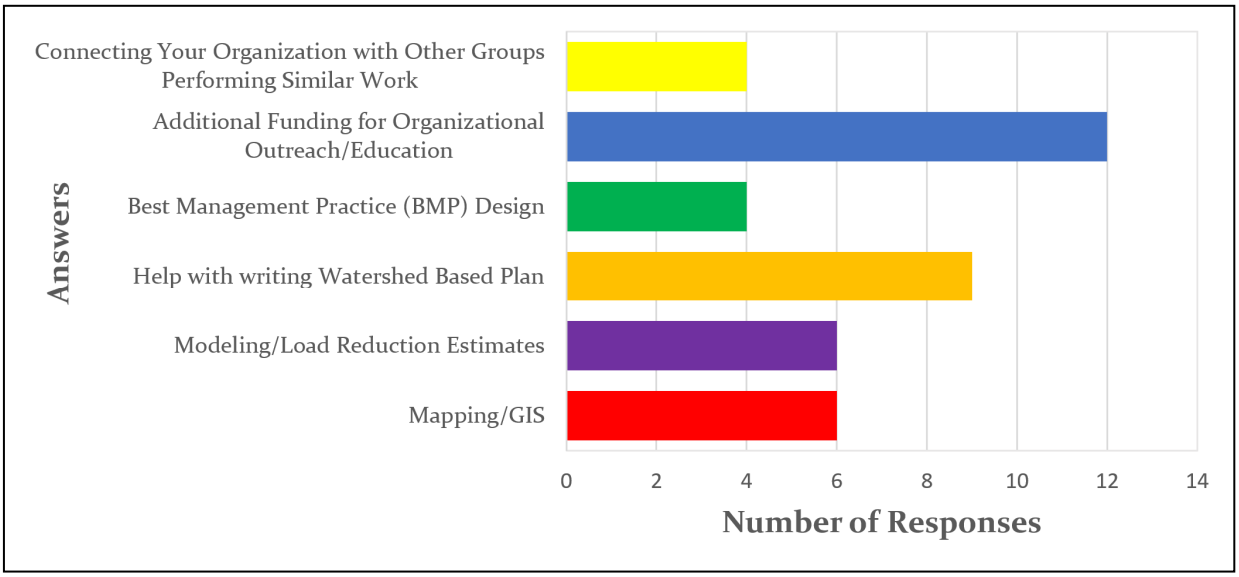
FIGURE 5: FEELINGS REGARDING REQUIRED PAPERWORK AND REPORTING



Question 6: Which of the following technical services would be most useful to your organization, if offered by the TDA-Nonpoint Source Program? Choose all that apply. *Question Format: Multiple choice – choose all that apply.*

Respondents are able to choose all technical services they feel would be useful in completing nonpoint source pollution prevention work. Additional funding for organizational outreach and education was the most popular service (67 percent of respondents), followed by assistance with developing watershed based plans (50 percent).

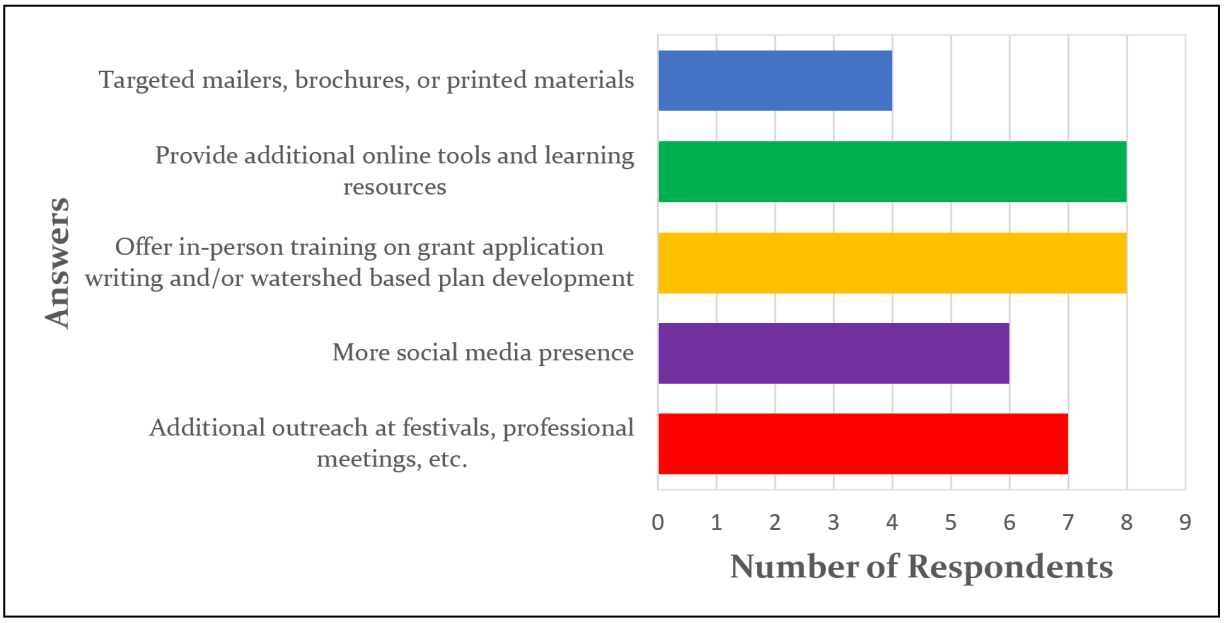
FIGURE 6: RANKING OF USEFUL SERVICES



Question 7: What would be your recommendation(s) as to how the TDA-Nonpoint Source Program could recruit new applicants for 319 Grants? Please check all that apply: *Question Format: Multiple choice – choose all that apply.*

Survey participants were asked to select all recruitment tools they felt would be beneficial to increase new applicants. In-person training and additional online tools tied for the most selected recruitment tools (8 respondents each). Additional outreach at festivals and professional meeting was the next most useful recruitment tool (7 respondents).

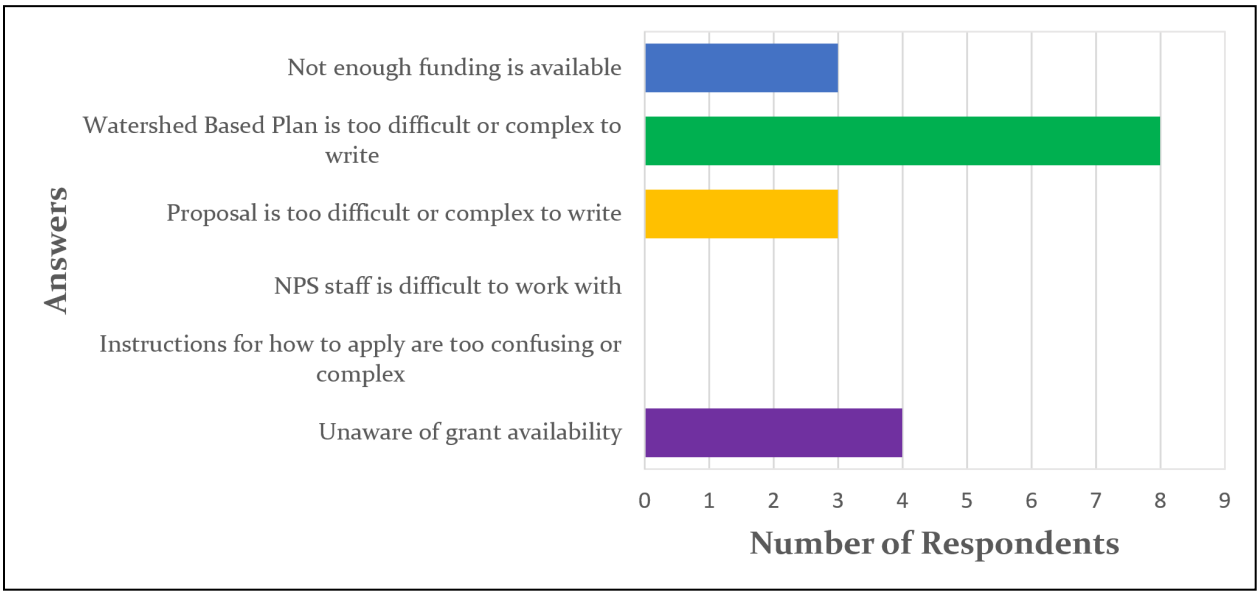
FIGURE 7: MOST USEFUL RECRUITMENT TOOLS



Question 8: What do you think is the primary deterrent when eligible organizations/entities decide NOT to apply for a 319 Grant? *Question Format: Multiple choice – choose all that apply.*

The survey asked participants what factor or factors acted as a deterrent for applying for a 319 grant. The most indicated reason was the difficulty of developing a watershed based plan (8 responses). Approximately 20 percent (4 respondents) indicated that organizations may be unaware of the grant's availability.

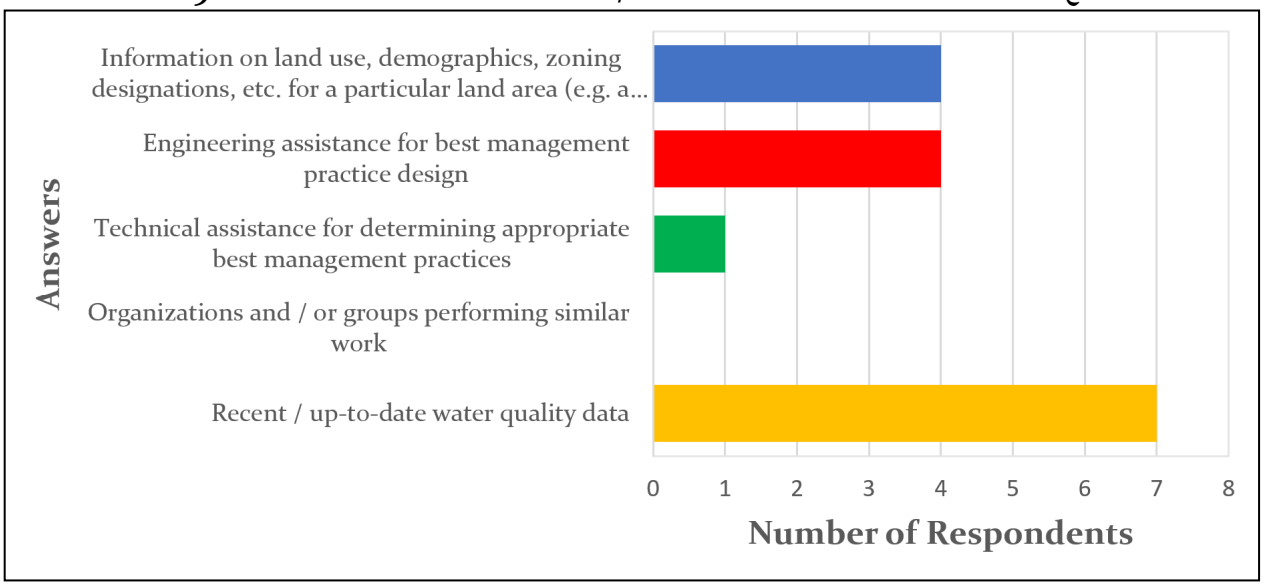
FIGURE 8: DETERRENTS TO APPLYING FOR 319 GRANTS



Question 9: What information / data are you missing or wish you had / knew that would help you in your work to improve water quality? *Question Format: Multiple choice – choose all that apply.*

Recent or up-to-date water quality data was indicated as the most important information organizations lack, that would improve their water quality work. Information about land use and demographics, as well as best management practice design were tied for the second most important type of information needed by participants.

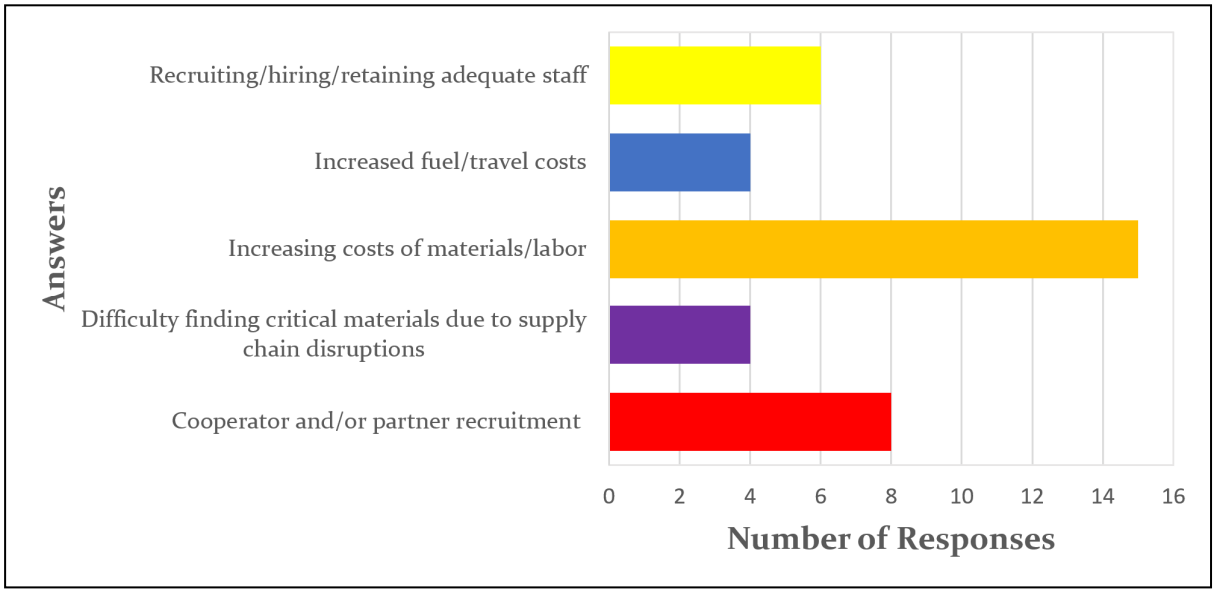
FIGURE 9: MISSING INFORMATION / DATA to IMPROVE WATER QUALITY



Question 10: What were the greatest challenges that faced your organization in the past year? Please check up to three options. *Multiple choice – up to three responses.*

For the second year, the increasing cost of materials and labor was indicated as the greatest challenge for participants (15 responses).

FIGURE 10: GREATEST CHALLENGES for the PAST YEAR



Conclusion

Participation with this year's survey far exceeded last year's involvement. Based on the responses received, the development of watershed based plans continues to prove a significant factor in an organization's willingness to apply for a Section 319 grant. Several years ago, a watershed based plan workshop was created, and updated every four to six months. Many organizations have taken the workshop virtually or in-person; however, due to the commencement of building renovations for the next several months, the TDA-Nonpoint Source Program will be unable to host trainings. Additional outreach is needed to let potential applicants know that the workshop can be offered virtually. In addition, the Greater Nashville Regional Council has begun writing plans for rural areas in several Middle Tennessee counties. It is hoped that this will assist groups with applications (as they will not be responsible for writing their own watershed based plan).

APPENDIX E

NATIONAL WATER QUALITY INITIATIVE (NWQI) STATUS UPDATE

NATIONAL WATER QUALITY INITIATIVE (NWQI) STATUS UPDATE

Introduction

Initiative Overview
The National Water Quality Initiative (NWQI), launched in 2012, is a collaborative effort between the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), the Environmental Protection Agency (EPA), and state agencies to reduce nonpoint source pollution to high-priority watersheds identified in each state. The high-priority watersheds are chosen by NRCS with input from state water quality agencies. The program is designed to focus efforts and funding to provide maximum impacts on the chosen watersheds.

The NWQI requires in-stream water quality monitoring of at least one priority watershed per year. The monitoring assesses water quality and biological conditions related to nutrients, sediments, or livestock-related pathogens. The objective is to determine if any of the parameters have changes throughout the monitoring period, and whether these changes (positive or negative) can be attributed to agriculture-based best management practices (BMPs) that have been installed in the watershed.

In the State of Tennessee, NRCS prioritizes watersheds for nomination that are located in counties included in the USDA StrikeForce Initiative. The USDA StrikeForce Initiative was established in 2010 with the objective of combatting the specific challenges associated with rural poverty, as well as growing rural communities and improving opportunities. In addition, NRCS utilizes EPA's Recovery Potential Screening Tool to further pare down the number of watersheds nominated for NWQI inclusion.

Tennessee Nonpoint Source (TN-NPS) Program Roles Assisting NWQI
The TN-NPS has several minor roles with regards to the NWQI. When asked, TN-NPS provides input on eligible watersheds through knowledge obtained by the Watershed Coordinators, who are in various watersheds every year. TN-NPS also provides funding, in the form of 319 Grant monies, to the Tennessee Department of Environment and Conservation (TDEC) for in-stream water quality monitoring.

Annual Updates

FFY2020
In FFY2020, USDA and EPA identified 22 active NWQI watersheds. As Tennessee begins a new five-year program management cycle, this update has been reorganized in order to provide a "snapshot" of each watershed including the number of impaired streams, number of practices installed through all the TN-NPS programs, etc. In FFY20, no Section 319 BMPs and 62 Agricultural Resources Conservation Fund (ARCF) practices were installed in NWQI watersheds. Specific information about the number of BMPs in individual watersheds can be found in the following snapshot section.

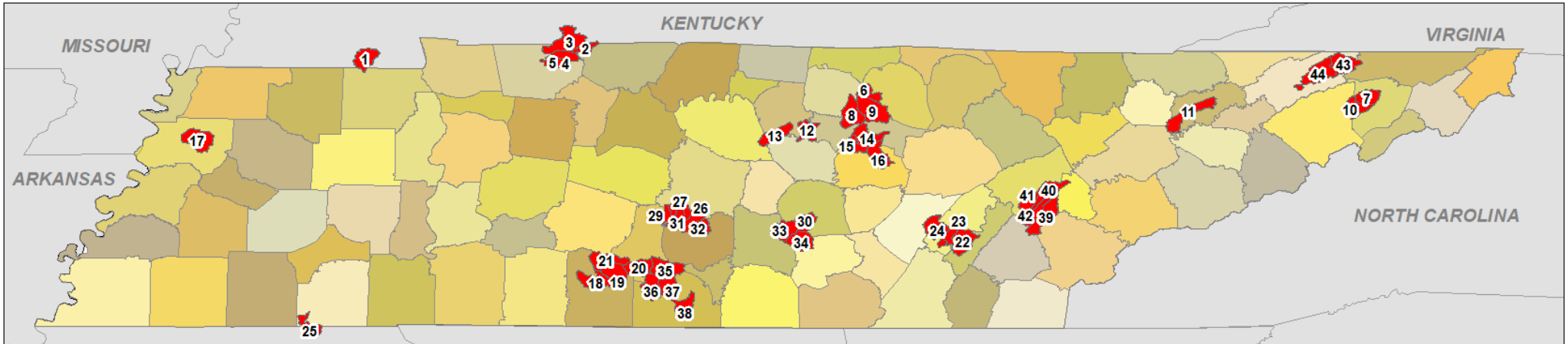
FFY2021
The watersheds identified as NWQI priority watersheds in FFY2020 were carried forward into FFY2021. In FFY2021, no Section 319 BMPs and 67 ARCF practices were installed in NWQI watersheds. Specific information about the number of BMPs in individual watersheds can be found in the following snapshot section. Note: Each marker may indicate more than one practice at a location.

FFY2022
Similar to the previous two years, the NWQI priority watersheds from FFY2020 and FFY2021 were identified as the priority watersheds for FFY2022 (see Figure 1). No Section 319 practices were installed in NWQI priority watersheds in FFY2022; however, 72 ARCF BMPs, which equate to approximately $158,355 in incentives payments to cooperators were constructed in these watersheds in the past year. Note: Each marker may indicate more than one practice at a location.

FFY2023
In FFY2023, the number of NWQI priority watersheds chosen as implementation watersheds was double that of the highest previous year. A total of 44 watersheds located wholly or partially in Tennessee were identified as priority watersheds. During FFY2023, a total of 38 practices were installed with the assistance of Section 319 grant funds, and 187 practices were installed with ARCF assistance. Please refer to Figure 1 for the location of priority watersheds, as well as a summary table indicating the amount of work performed in each watershed.

Moving Forward

With the inclusion of several additional priority watersheds, the number of BMPs supported by TN-NPS in NWQI watersheds has increased. The addition of nearly two dozen HUC-12s also increases the likelihood of future funded projects impacting NQWI priority areas.



Watershed ID	Watershed No.	Watershed Name	No. 319 Practices	No. ARCF Practices	Watershed ID	Watershed No.	Watershed Name	No. 319 Practices	No. ARCF Practices	Watershed ID	Watershed No.	Watershed Name	No. 319 Practices	No. ARCF Practices
1	060400060102	Middle Fork Clarks River	0	0	16	051301080404	Calfkiller River Middle	0	0	31	060400020404	North Fork Creek Upper	0	6
2	051302060704	Lower Elk Fork	0	1	17	080102040402	Lewis Creek	0	7	32	060400020306	Fall Creek	0	6
3	051302060603	Spring Creek	0	3	18	060300040205	Richland Creek-Dry Creek	16	0	33	051301070102	West Fork Hickory Creek	0	3
4	051302060707	City of Kirkwood-Red River	0	2	19	060300040203	Richland Creek-Blue Creek	0	4	34	051301070101	Little Hickory Creek	0	7
5	051302060708	Dunbar Lake-Red River	0	0	20	060300040201	Richland Creek Headwaters	0	13	35	060300030801	Cane Creek Upper	0	6
6	051301060206	Roaring River-Dry Hollow Branch	0	0	21	060300040202	Robertson Fork Creek	0	9	36	060300030902	Swan Creek	0	6
7	060101080501	Muddy Fork	0	0	22	060200010603	Tennessee River-Chickamauga Lake Upper	0	1	37	060300030802	Cane Creek Lower	0	4
8	051301060205	Blackburn Fork	0	18	23	060200010202	Little Richland Creek	0	0	38	060300030706	Elk River-Lees Creek	0	7
9	051301060204	Spring Creek	0	8	24	060200010201	Richland Creek	0	0	39	060102010301	Sweetwater Creek	0	6
10	060101080502	Big Limestone Creek	0	5	25	080102070504	Coon Creek-Tuscumbia River Canal	0	0	40	060102010305	Tennessee River-Hines Creek	0	6
11	060101040303	Richland Creek	22	0	26	060400020401	Alexander Creek	0	0	41	060102010304	Paint Rock Creek	0	2
12	051301080905	Center Hill Lake	0	0	27	060400020402	Weakley Creek	0	2	42	060102010303	Pond Creek	0	6
13	051301080906	Hickman Creek	0	17	28	060400020403	Clem Creek	0	3	43	060101040101	Holston River-Hord Creek	0	0
14	051301080702	Falling Water River Upper	0	11	29	060400020701	Wilson Creek	0	7	44	060101040104	Holston River-Bradley Creek	0	5
15	051301080705	Falling Water River Middle	0	3	30	051301070103	Hickory Creek	0	3					

LEGEND

Tennessee Counties
High-priority Watersheds FFY2023

0 25 50 100 Miles

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TN Department of Agriculture

FIGURE 1: NATIONAL WATER QUALITY INITIATIVE WATERSHEDS FOR THE STATE OF TENNESSEE IN FEDERAL FISCAL (FFY) YEAR 2023