



Tennessee Nutrient Reduction Task Force

Improving Stream Water Quality

TRIENNIAL REPORT 2021-2023

Prepared by the Nutrient Task Force Subcommittees



Executive Summary

Although slowed down by the Covid pandemic, Tennessee's Nutrient Task Force remained active throughout the years of 2021 – 2023. The Task Force continued to establish meaningful partnerships and engage in thoughtful conversations to develop strategic goals to reduce the state's contributions to nutrients in the Mississippi River watershed. Over this period, the Task Force met a total of nine times, with the subcommittees meeting additionally to continue progressing toward their individual goals.

Highlighted accomplishments from 2021 – 2023 include:

- The Communications and Outreach subcommittee developed a Nutrient Reduction Toolkit that will serve as a resource for internal and external partners to utilize for education and outreach purposes.
- The Goals and Metrics Subcommittee drafted metrics for tracking progress on the Tennessee Nutrient Reduction Strategy.
- The Data and Metrics subcommittee utilized the USGS SPARROW model to determine, group, and rank pollutant type and source of pollutant across Tennessee's watersheds. The model results indicate which watershed contain the highest nitrogen and phosphorus yields from the each of the following sources: agriculture runoff, urban stormwater runoff, and wastewater discharge.
- The Data and Metrics subcommittee developed the Tennessee Nutrient Database to track historical and current nutrient monitoring data throughout the state by different organizations. Efforts were made to harmonize the data so that it can be further utilized by stakeholders.
- The Best Management Practices and Pilots workgroups produced a variety of outputs:
 - A Nature-Based Solutions workgroup was formed to represent and advocate for use of nature-based solutions for nutrient reduction in TN. Nature-based solutions are defined as using streams, riparian buffers, wetlands, and floodplain dynamics to reduce the impact of excess nutrients.
 - The Municipal Wastewater Treatment workgroup developed a database to easily review nutrient discharges from wastewater treatment plants. The workgroup will utilize this data to make recommendations on wastewater treatment plants that most benefit from nutrient removal optimization or other nutrient reduction strategies.
 - The Tennessee Plant Optimization Program assisted more wastewater treatment plants over this time period, bringing the total up to 20 participants in the program.
 - The Agriculture workgroup conducted and produced numerous studies to determine the use and implementation practices regarding nutrients in agricultural sectors, as well as implementation and understanding of cover crops.
 - The Urban Stormwater Control Measures workgroup started a project to better understand the effectiveness of commonly utilized urban post-construction SCMs.

Significant strides have been made since the formation of this Task Force. It is well understood by the Task Force stakeholders that more data is needed to better understand nutrient sources and applications so that meaningful programs can be implemented to eventually produce measurable reductions in nutrients contributions to the Mississippi River watershed.

Introduction

Tennessee is one of 12 states that contributes to excess nutrients to the Mississippi River. The United States Geological Survey estimates that approximately 5% of the nitrogen and phosphorus delivered to the Northern Gulf of Mexico is contributed by sources in Tennessee (Alexander et al., 2008). Within the state of Tennessee, there are 5,062 river miles and 26,712 acres of lakes/reservoirs impaired by nutrients (2024 TDEC 303(d) list). To tackle the nutrient issues, the Tennessee Department of Environment and Conservation (TDEC) developed a draft nutrient reduction framework in 2015 (https://www.tn.gov/content/dam/tn/environment/water/tmdl-program/wr-ws_tennessee-draft-nutrient-reduction-framework_030315.pdf). In 2019, TDEC and the Tennessee Department of Agriculture (TDA) initiated the engagement of stakeholders to improve on the framework by convening the Tennessee Nutrient Strategy Task Force (the Task Force), which draws representation from academia, state and local government, wastewater treatment plant operators, the private sector, and non-governmental organizations. The inaugural report documenting the initial efforts of the Task Force was published in 2021 (https://www.tn.gov/content/dam/tn/environment/water/nutrient-management/ntf/wr_ntf_nutrient-strategy-taskforce-report-final-2021.pdf). Currently, up to 75 stakeholders from all major sectors, private and public, state, federal and local are actively participating in the Task Force. Together, they have contributed towards:

- Prioritizing watersheds for nutrient reduction
- Compiling historical and current in-stream nutrient concentration and flow data to evaluate water quality data gaps in determining nutrient trends
- Compiling nutrient data from mechanical wastewater treatment plants to evaluate trends and cost-effective nutrient reduction strategies
- Assisting wastewater treatment plants with optimizing operations for nutrient reductions
- Mapping agricultural conservation practices that enables nutrient reduction
- Surveying producers in Tennessee to better understand their nutrient management practices
- Participating in the public comment phase of the Tennessee NPDES Small Municipal Separate Storm Sewer Systems
- Creating a communication and outreach toolkit

Task Force Partners and Participants

The Task Force is represented by various federal, state, local, and non-profit organizations throughout the state of Tennessee.





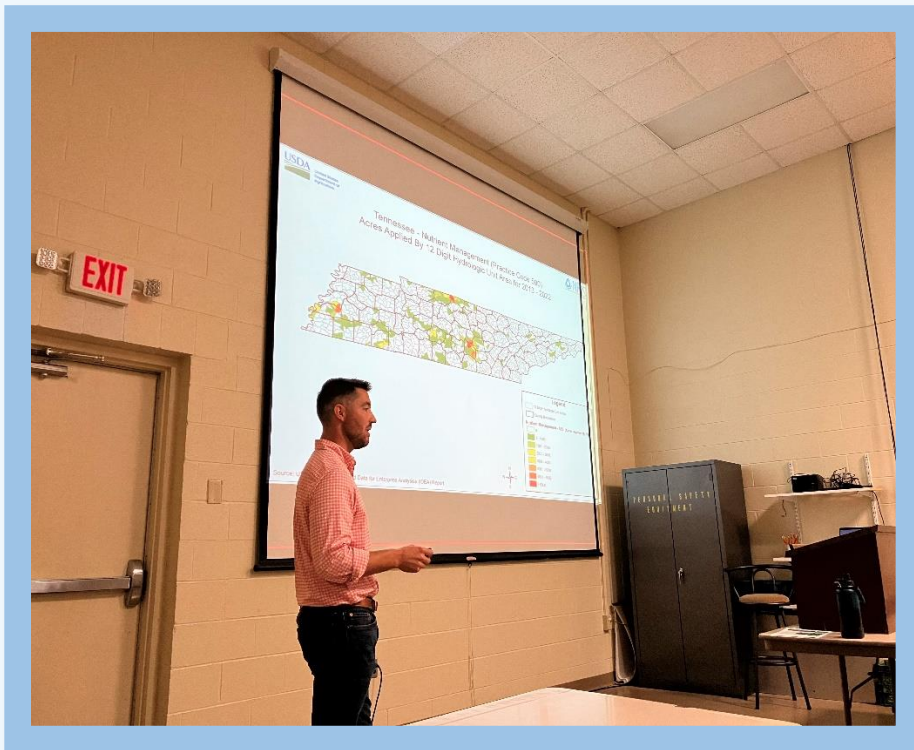
Since 2021, the Task Force met a total of 10 times to discuss progress and share ideas on tracking and implementing nutrient management strategies. Meetings in 2021 and during the earlier part of 2022 were virtual, while those in the later part of 2022 and throughout 2023 were in-person.



Hybrid Nutrient Task Force Meeting, September 8, 2022



TDEC speaking about the TN Nutrient Task Force at the TN Stormwater Association Conference in October 2023



USDA-NRCS presentation at Nutrient Task Force meeting in August 2023

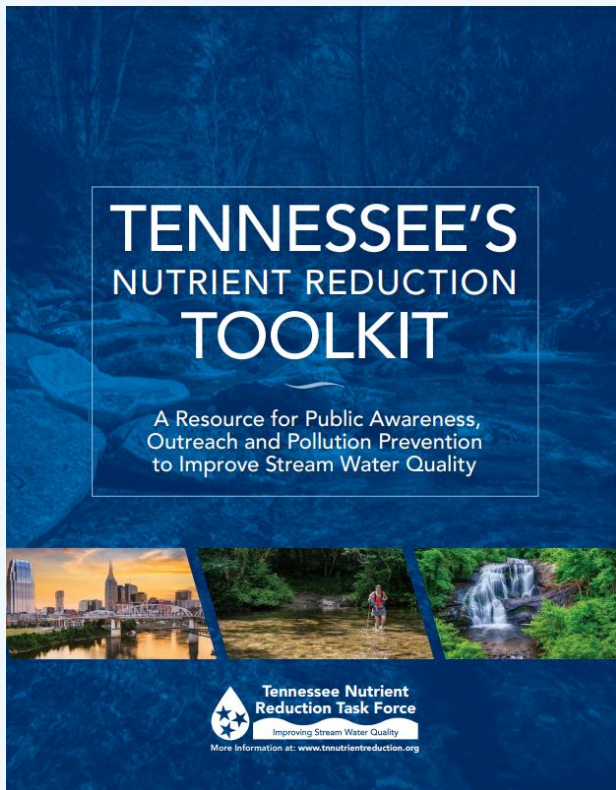
Task Force Subcommittees

The Task Force consists of four subcommittees: Communication and Outreach, Goals and Metrics, Data and Monitoring, and Best Management Practices and Pilots. The subcommittees met routinely throughout the 2021-2023 time frame. Updates and progress made from each subcommittee are showcased below.

Communications & Outreach Subcommittee

Responsibilities of the Communication and Outreach Subcommittee
Draft Task Force progress reports
Provide outreach content to stakeholder agencies
Develop schedules for communication, outreach, and education events
Support outreach to promote and assist in implementation of best practices, pilot projects, and innovative efforts
Provide Toolkit, videos, and StoryMap content to Task Force website

Tennessee's Nutrient Reduction Toolkit



The Communications and Outreach Committee worked to complete the final draft of Tennessee's Nutrient Reduction Toolkit (the Toolkit). The toolkit serves as a resource that the public can use for nutrient awareness and pollution prevention strategies to improve the water quality in Tennessee's stormwater runoff and streams.

The toolkit was prepared by Middle Tennessee State University (MTSU) during 2020-2022 with funding provided by a grant from the Environmental Protection Agency (EPA) administered through TDEC. Minor revisions and improvements are underway.

Goals of the 142-page Toolkit are to provide useful information to the different community sectors within Tennessee to address nutrient pollution that is contributing to the environmental health and degradation of Tennessee's waterways.

The Toolkit can be used in its entirety or by the individual sections depending on what is most useful to the reader and end user. Once finalized, the resource will be housed on the Task Force's website.

Goals and Metrics Subcommittee

Responsibilities of the Goals and Metrics Subcommittee
Identify type and level of nutrient reductions necessary to achieve Tennessee's short-, medium-, and long-term goals and metrics by sector
Identify short-, medium-, and long-term goals and metrics for overall nutrient reduction in TN and translate Gulf Hypoxia Improvement goals to state level
Identify ways to track progress overall and in each sector via a Dashboard

The Goals and Metrics Subcommittee had the opportunity to discuss and draft metrics for tracking progress on the Tennessee Nutrient Reduction Strategy. As shown below, the metrics are organized into four tiers. Although in its preliminary stage, information gathered for all tiers of metrics will serve as a tracker for nutrient reduction efforts in Tennessee.

Tier 1: Narrative Metrics: Stories, Presentations, Publications and Reports

	Agriculture Sector	Municipal Wastewater Sector	Urban Stormwater Sector	Nature-Based Solutions	General Nutrients
Conference Presentations and Proceedings		March 2021 to TAUD on Wastewater Plant Optimization	Tennessee Stormwater Association Conference, October 2023 TN Show of the South Conference, May 11, 2022	Southern Division American Fisheries Society Meeting	KY/TN Water Quality Professionals, November 16, 2023 West TN Water Resources Symposium, February 2023
Task Force Meetings	Agricultural BMPS workgroup meetings: <ul style="list-style-type: none"> • 5 meetings in 2021 • 6 meetings in 2022 • 1 meeting in 2023 	Municipal Wastewater BMPs workgroups meetings: <ul style="list-style-type: none"> • 5 meetings in 2021 • 6 meetings in 2022 • October 2023 (5 attendees) • November 2023 (5 attendees) 	Urban BMPs workgroups meetings: <ul style="list-style-type: none"> • 5 meetings in 2021 • 6 meetings in 2022 • October 2023 (6 attendees) 	Initial group formation on Nov 6, 2023 (10 attendees)	Entire Task Force meetings: <ul style="list-style-type: none"> • June 24, 2021 • Sep 30, 2021 • Dec 9, 2021 • Mar 10, 2021 • June 9, 2022 • Sep 8, 2022 • April 5, 2023 • Aug 11, 2023 (25 attendees) • Dec 6, 2023 (23 attendees)
Case Studies and Success Stories	2023 TDA Nutrient Management Survey of TN USDA – NRCS’s Corn-Silk-Farms Case-Study (Feb 2022)	TNPOP Case Studies: Oneida and McMinnville, Cookeville, and Norris		US COE’s Hatchie-Loosahatchie Mississippi River Ecosystem Restoration Study	

<p>Research and Publications</p>	<p><u>The Nature Conservancy's Farming for the Future. Cover Crops: Trends & Next Steps for Tennessee (2022)</u></p>			<p>Lizotte, et al., <u>Nutrient and algal responses to a managed drawdown in an agricultural riverine lake</u></p>	
<p>Reports and Maps</p>	<p><u>Tennessee Department of Agriculture's 2023 Nutrient Management Report</u></p>		<p>EPA Region 4 Urban BMP literature review: <u>https://www.tn.gov/environment/program-areas/wr-water-resources/nutrient-management-in-tennessee/resources/best-management-practices.html</u></p>		<p><u>2021 Inaugural TN Nutrient Task Force Report</u></p> <p><u>Mississippi River/Gulf of Mexico Watershed Nutrient Task Force 2023 Report to Congress</u></p>

Tier 2: Qualitative Metrics: Programs and Events

	Agriculture Sector	Municipal Wastewater Sector	Urban Stormwater Sector	Nature-Based Solutions	General Nutrients
Education and Outreach Events	<p>CRC's Termination and Incorporation of Cover Crops Workshop (Sept 2023; 26 attendees)</p> <p>TNC's Managing Risk Through Conservation Field Day (Dec 2023, 35 attendees)</p>	<p>7 training sessions conducted by TDEC for nutrient optimization</p>	<p>Distributed 300 brochures on Stormwater Control Measures for HOAs</p>		
Programs	<p>TDA's Riparian Incentives Program</p> <p>TVA Shade Your Stream</p>	<p>TNPOP</p> <p>4 plants participated in optimization in YR 21-22</p> <p>3 plants participated in YR 23-24</p>	<p>CRC's No Mow Month (April 2023, 200 participants)</p> <p>Tennessee Smart Yards</p>		
Stakeholder Involvement	<p>TDEC, TDA, USDA-NRCS, TTU, UT Extension, The Nature Conservancy, Cumberland River Compact</p>	<p>TDEC, TTU, TAUD, UTK, Consultants, Local municipalities, Local utilities</p>	<p>TDEC, TTU, TAUD, TDOT, UT Extension, Consultants, Local municipalities, Cumberland River Compact</p>	<p>TDEC, WTRBA, TDA, USDA-NRCS, TTU, Murray State University, The Nature Conservancy, Cumberland River Compact</p>	<p>Stakeholders from 23 different federal, state, and local governments, universities, non-profits, and consultants</p>

Tier 3: Quantitative Metrics: Acres & BMPs

	Agriculture Sector	Municipal Wastewater Sector	Urban Stormwater Sector	Nature-Based Solutions	General Nutrients
TDEC Issued Permits with Nutrients Monitoring	7 Confined Animal Feeding Operations	141			8 industrial facilities
Watershed Plans				TVA	Falling Water Watershed Plan
Protected Areas	Has not yet been compiled	N/A	Urban Waters Report Card under development Tennessee Smart Yards	Has not yet been compiled	248,948 acres in TN state-managed public access lands; 37 federally protected areas New TN State Park: Middle Fork Bottoms
No Till Acres	Tennessee Department of Agriculture's 2023 Nutrient Management Report				
Cover Crops Implemented	Tennessee Department of Agriculture's 2023 Nutrient Management Report				
Treated Areas BMPs/SCMs		N/A	Has not yet been compiled	Survey123 for NBS projects under development	

Treated Flows (MGD)		<p>Total Average Wastewater Effluent Flow from Mechanical Treatment Plants in TN:</p> <ul style="list-style-type: none"> • 578 MGD in 2019 • 640 MGD in 2020 • 598 MGD in 2021 • 576 MGD in 2022 • 489 MGD in 2023 			
BMP Coverage			Has not yet been compiled		
Reductions (lbs)	Has not yet been compiled	Has not yet been compiled	Has not yet been compiled	Has not yet been compiled	Has not yet been compiled

Tier 4: Trending Metrics: Loads and Trends
Has Not Yet Been Compiled

	Agriculture Sector	Municipal Wastewater Sector	Urban Stormwater Sector	Nature-Based Solutions	General Nutrients
Concentrations					
Loads					
Adoption					
Removal Rates					
Lake Harmful Algal Blooms					
Stream impairment delisting					

Data and Monitoring Subcommittee

Responsibilities of the Data and Monitoring Subcommittee

Identify existing monitoring programs for each participating agency that monitors water quality & their associated QAPPs

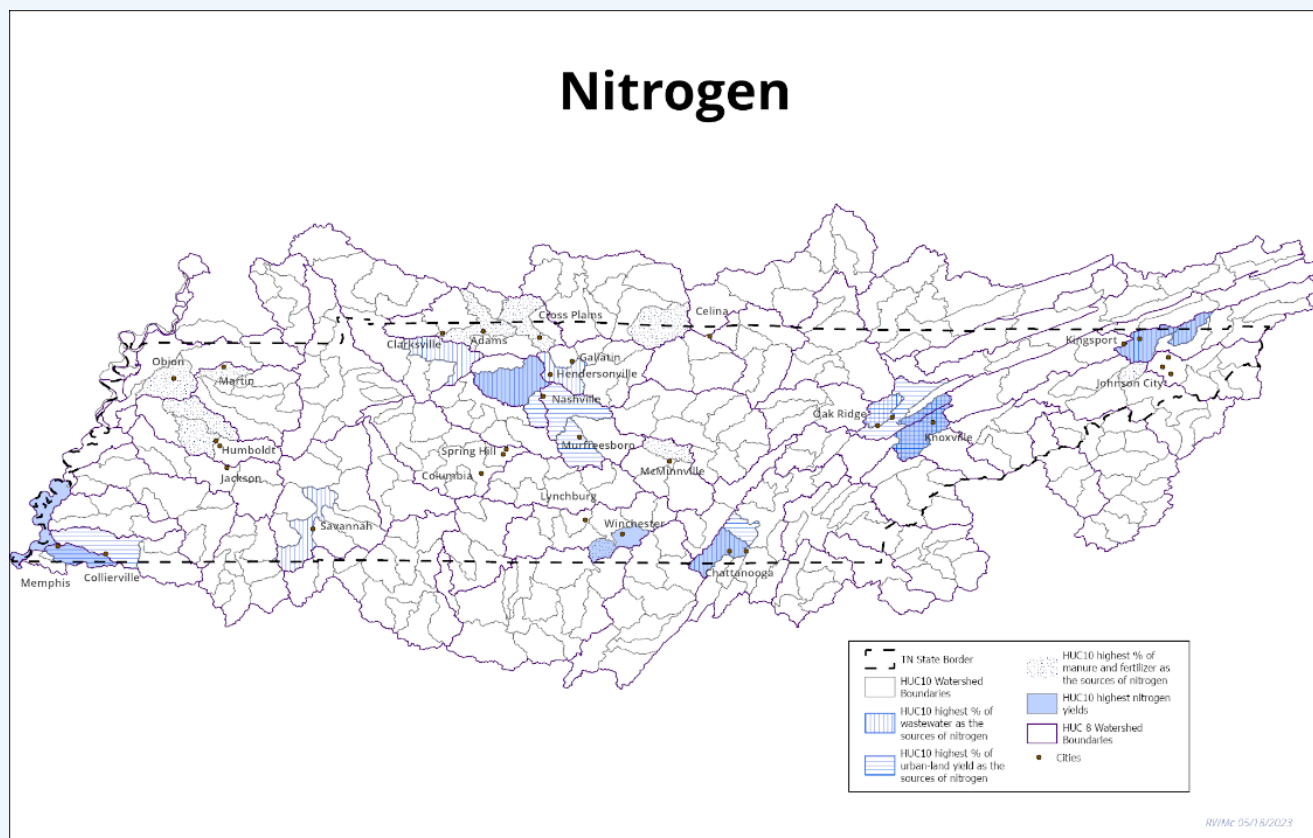
Recommend supplemental flow and nutrient monitoring plan

Compile data on TN nutrient projects and pilots

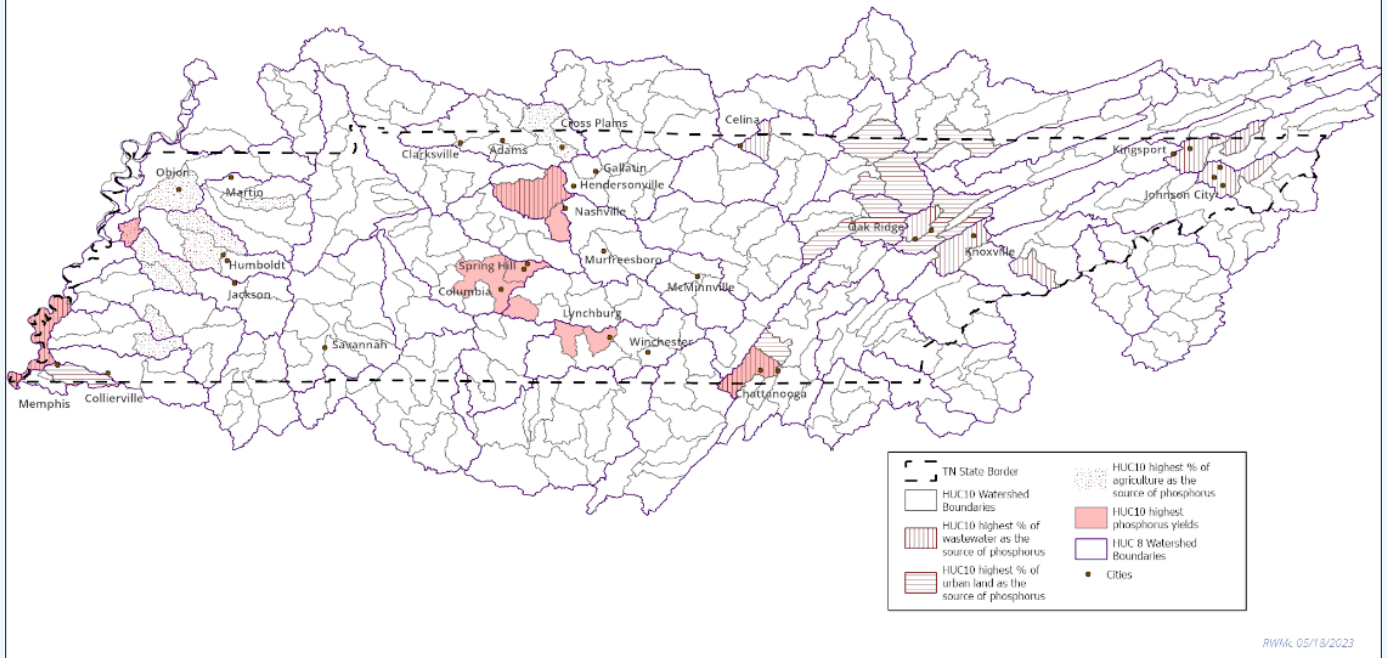
Prioritizing Watersheds

The USGS SPARROW model was utilized to determine the pollutant type and source of pollutant across Tennessee's watersheds. The watersheds were then grouped and ranked. The tables below show the top 10 watersheds with highest nitrogen and phosphorus yields resulting from the each of the following sources: agriculture runoff, urban stormwater runoff, and wastewater discharge.

The following graphs provide a visual representation of the location of the streams most impacted by nitrogen and phosphorus, by source.



Phosphorus



Compilation and Analysis of Long-term Nitrogen and Phosphorus Monitoring Data in Tennessee

A study was conducted by the Tennessee Tech University (TTU), and funded by TDEC, to compile and analyze long-term nitrogen and phosphorus monitoring data in Tennessee, specifically in surface waters. To meet this goal, four main objectives were established: 1. identify potential nitrogen and phosphorus data sources across the state of Tennessee; 2. compile and standardize the acquired nutrient data; develop a central database to house the reformatted data; 3. identify the data gaps; and 4. analyze the data for possible nutrient trends present in the watersheds of Tennessee. Water quality data acquired from multiple organizations across the state were wrangled and harmonized for storage in the Tennessee Nutrient Database. This database was developed as a part of this study. Analyzing the data compiled in the database revealed that many watersheds lacked sufficient monitoring sites and sample collection frequency for a thorough statistical understanding of how nutrients have changed over time. The types of nutrients monitored by different organizations, across sites and watersheds were also not consistent. Nevertheless, the Regional Seasonal Mann Kendall statistical test was utilized for trend analysis and detected significant increases and decreases in nutrient concentrations in some watersheds. However, gaps in the data may have impacted these results, making the results useful as a starting point, but not for drawing conclusions regarding nutrient trends. Through the aforementioned data processing and statistical analysis, this study revealed the need for a standardized reporting format and sampling methodology for the collection of water quality data. Improving the quantity and quality of nutrient data in the database will allow for more robust statistical analyses, resulting in a better understanding of how nutrients are changing in the surface waters of Tennessee.

The complete study can be found at https://www.tn.gov/content/dam/tn/environment/water/nutrient-management/ntf/wr_ntf_compilation-and-analysis-nutrient-data-ttu-final-report.pdf

Nutrient Data Visualization

The Task Force partnered with Great Lakes to Gulf to help interested parties visualize and better understand nutrient pollution and its potential causes. The Great Lakes to Gulf Virtual Observatory (GLTG) is an interactive application that provides user-friendly access to water quality information about the Mississippi River and its tributaries. Interested parties can compare current and historic water quality conditions in rivers and streams and Download data for further exploration. <https://tennessee.greatlakestogulf.org/#/>

Best Management Practices (BMPs) and Pilots

The BMPs and Pilots Subcommittee consists of 4 workgroups that focus on practices in specific sectors: Agricultural, Municipal Wastewater, Urban Stormwater Control Measures, and Industrial. During this term, the Industrial workgroup was replaced with the Nature-Based Solutions (NBS) workgroup.

Responsibilities of the Best Management Practices and Pilots Subcommittee
With the understanding of cost/benefit of applicable Best Management Practices (BMPs), recommend the most effective BMPs from each sector for implementation
Identify all TDA and NRCS programs and projects for nutrient reduction
Develop a consolidated spreadsheet with flows, loads, and nutrient concentration data for treatment plants.
Collect relevant nutrient Stormwater Control Measure (SCM) data reported to TDEC from municipalities with coverage under the Municipal Separate Stormwater Sewer System (MS4) permit
Develop recommendation(s) for collecting more relevant data during annual reporting to TDEC for relevant sectors (TMSP and IP)

Nature-Based Solutions

After meeting for several years, Task Force members noticed that a crucial sector was missing from the BMPs workgroups. In 2023, the NBS workgroup was formed to address this gap and to represent and advocate for use of nature-based solutions for nutrient reduction in TN. We define nature-based solutions as using streams, riparian buffers, wetlands, and floodplain dynamics to reduce the impact of excess nutrients. The major goals for the group are to 1) advocate, report, and summarize the use of NBS and to 2) provide opportunities for interagency collaborations in improving and implementing nature-based solutions to reduce nutrient impacts. This year, the focus is on sharing NBS potential to the larger Task Force, tracking potential impacts to NBS due to Waters of the United States (WOTUS) changes, and tracking progress on the TN Floodplain Task Force MOU partnership.

TDEC's West Tennessee River Basin Authority, along with TN Wildlife Resources Agency and The Nature Conservancy partnered to convert 1,200 acres of farmland into a new state park with restored flood management areas. The newly formed [Middle Fork Bottoms State Park](#) includes 250,000 recently planted hardwood trees, 20 acres of warm-season prairie, over 200 acres of restored shallow-water wetlands, two miles of restored stream, and restored habitat for wildlife viewing.

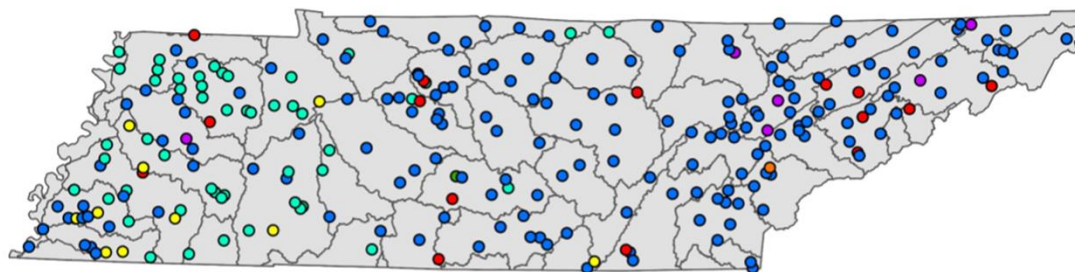
Municipal Wastewater BMPs

Tennessee Municipal Wastewater Universe

In need of a tool to easily review data on nutrients discharged from Tennessee’s wastewater treatment plants (WWTPs), TTU created the Municipal Wastewater Universe (“Universe”). In addition to facility information, the Universe includes facility treatment type, monitoring data, and calculated effluent concentrations. The Wastewater BMPs workgroup will utilize this data to recommend WWTPs that would most benefit from nutrient removal optimization or other nutrient reduction strategies.

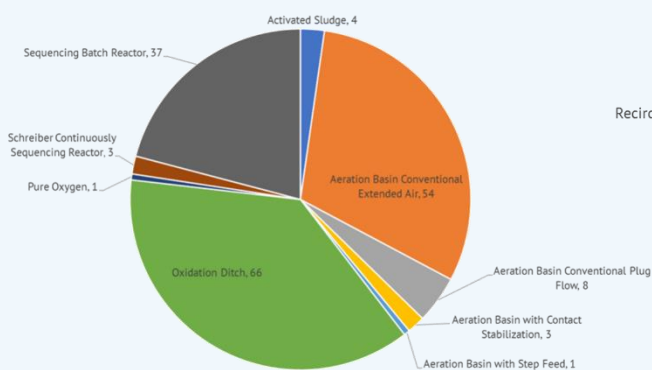
Municipal Wastewater Treatment Plants in Tennessee

Map Prepared by Sarah Finkle
 Department of Civil and Environmental Engineering
 Tennessee Technological University

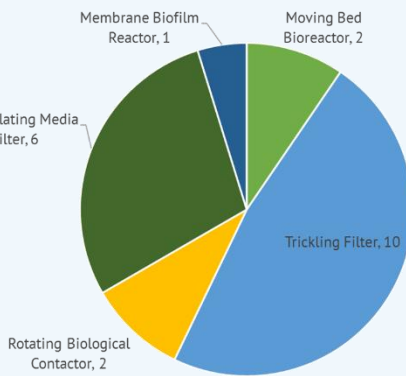


Facility Type

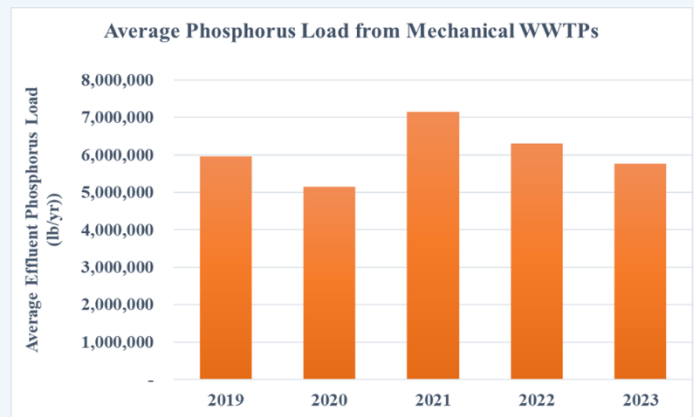
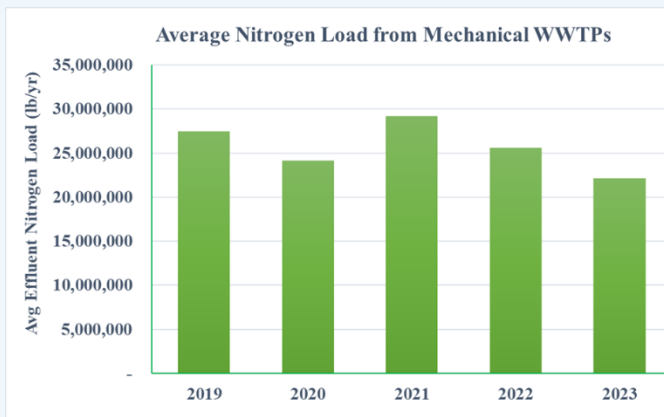
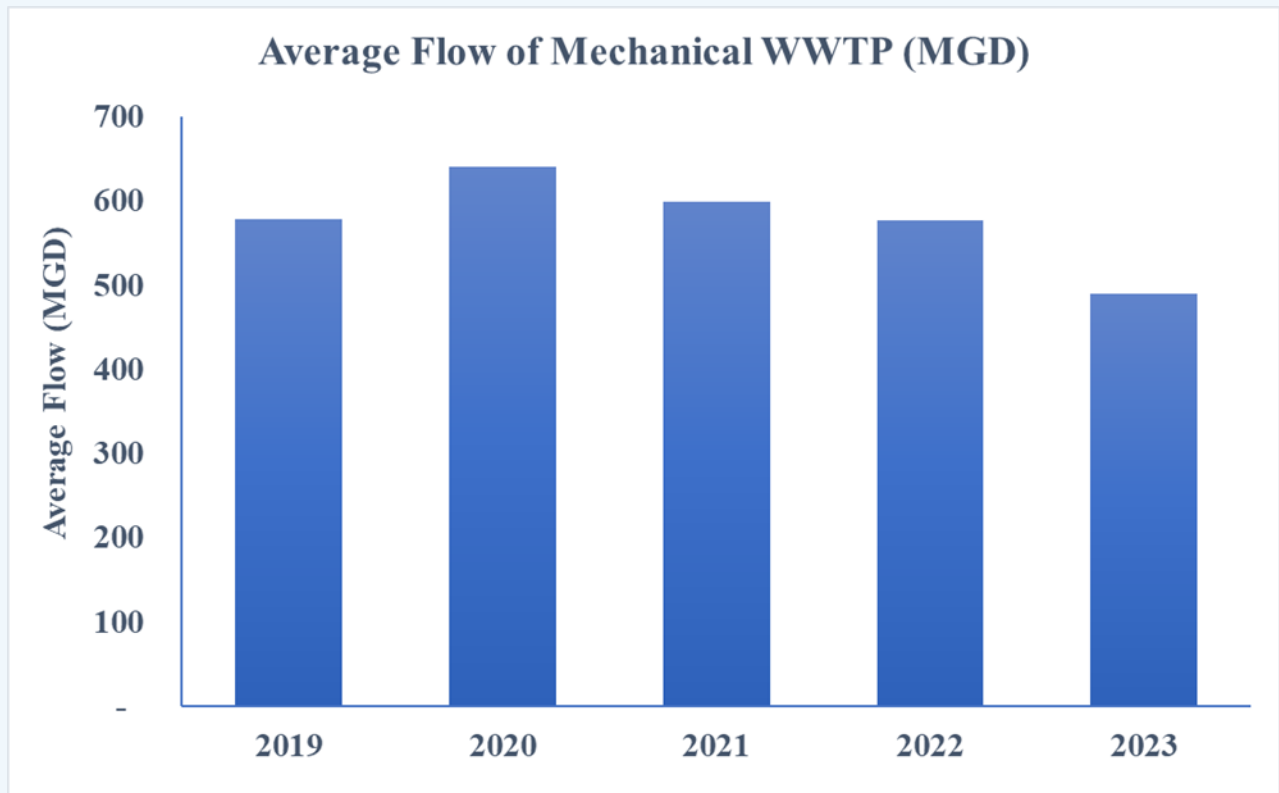
- Aerated Lagoon - 10
- Mechanical, Attached Growth - 16
- Mechanical, Suspended Growth - 172
- Mechanical, Suspended/Attached - 6
- Non-Mechanical Lagoon - 50
- Non-Mechanical Septic System - 1
- Non-Mechanical Wetlands - 1
- Tennessee Watersheds



Suspended Growth Processes + Both
 (Total = 177)



Attached Growth Processes + Both
 (Total = 21)



~38 WWTPs did not have effluent load data in EPA ECHO

Tennessee Plant Optimization Program (TNPOP)

(<https://www.tn.gov/environment/program-areas/wr-water-resources/tn-plant-optimization-programs/tnpop.html>)

The Tennessee Plant Optimization Program (TNPOP), facilitated by the TDEC - Division of Water Resources, is a free initiative designed to assist wastewater operators in optimizing nutrient removal and energy efficiency in their facilities. With approximately 20 participating plants to date, TNPOP offers resources and support for achieving these goals through cost-effective measures. Within the next 5 years, the plan is to reach the remaining 160 municipal mechanical wastewater plants with this program.

BMPS and Pilots – Urban SCMs

The workgroup is undertaking a project to better understand the effectiveness of commonly utilized urban post-construction SCMs. Pollutant removal data from a variety of sources has been collected. More data is needed. Once this data is collected, additional analyses will be conducted since the reported pollutant removal values vary widely and can be dependent on-site specific runoff and land use characteristics.

The workgroup is also compiling a geodatabase of SCMs inventory of all MS4s in Tennessee and commented on the Small MS4 General Permit (NPDES Permit TNS000000).

BMPS and Pilots – Agricultural BMPs

2023 Tennessee Nutrient Management Report

https://www.tn.gov/content/dam/tn/environment/water/nutrient-management/ntf/wr_ntf_2023-nutrient-management-report-ut-ag.pdf

An online survey of producers in Tennessee was conducted in February and March of 2023 to better understand their use of, and objectives with, nutrient management practices such as nutrient management planning, soil testing, cover crops, no-till, and variable rate application, among other practices. Key findings of this report are:

- 90% of all surveyed crop producers use no-till.
- 60% of all surveyed crop producers use cover crops.
- 86% of all surveyed crop producers soil test.
- 80% of all pasture/hay producer respondents soil test.
- 73% of all respondents said they determine how much fertilizer to apply based on soil tests.

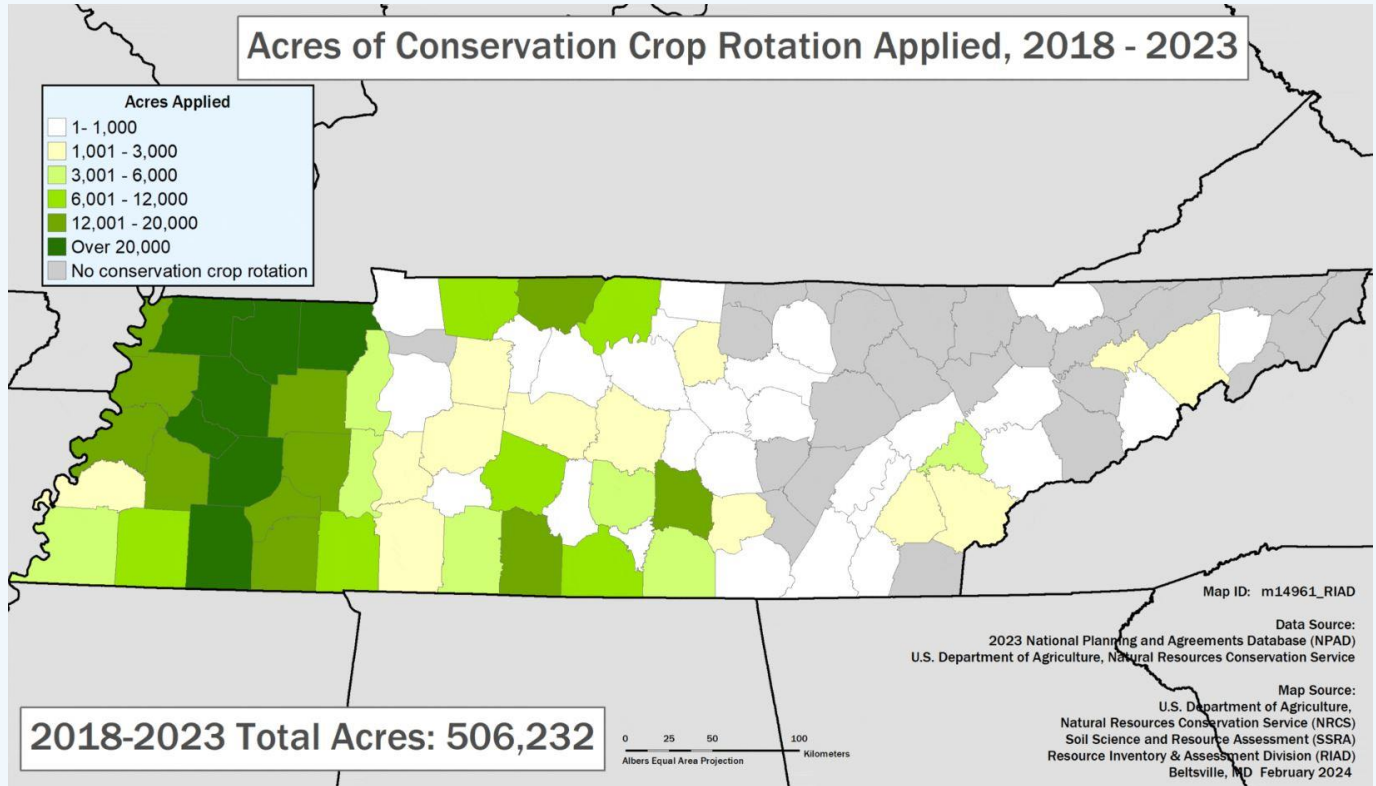
While the survey data was insightful for understanding the use of these practices, we also utilized United States Department of Agricultural (USDA) Natural Resource Conservation Service (NRCS) data to see how Tennessee compares to other states. These data indicated:

- Tennessee ranked second in the US for enrollments into cover crops from 2014 to 2022.
- Tennessee ranked first in the US for total dollars spent on allocating acres into cover crops from 2014 to 2022.
- In the next five years, respondents expect to continue to increase the use of cover crops, no-till, soil testing, nitrogen stabilizers, and poultry litter.

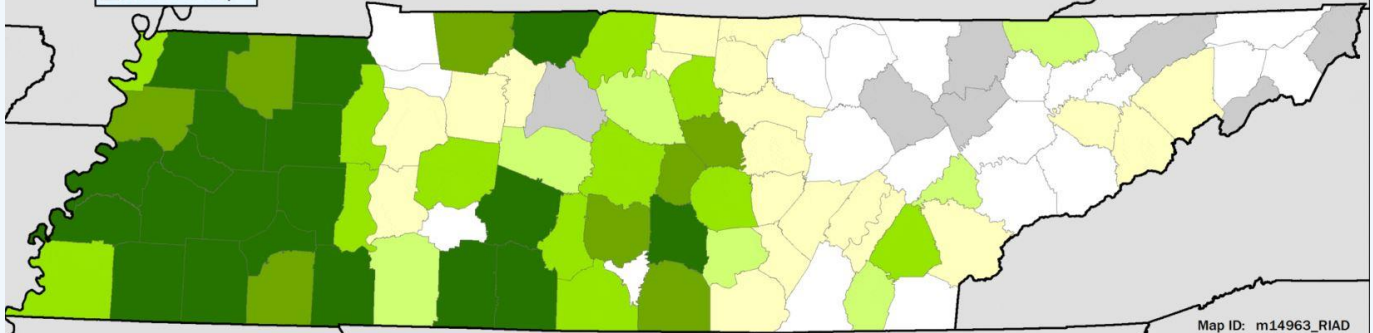
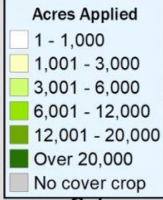
These findings demonstrate Tennessee has made substantial progress in terms of public and private investment in nutrient management practices and can serve as a baseline for tracking the evolution of environmental stewardship among Tennessee crop producers.

Agricultural Conservation Practices Mapping in Tennessee

Visuals created by Natural Resources Conservation Service – Resource Inventory and Assessment Division in March 2024 using data from the 2023 National Planning and Agreements Database, U.S. Department of Agriculture, Natural Resources Conservation Service.



Acres of Cover Crop Applied, 2018 - 2023



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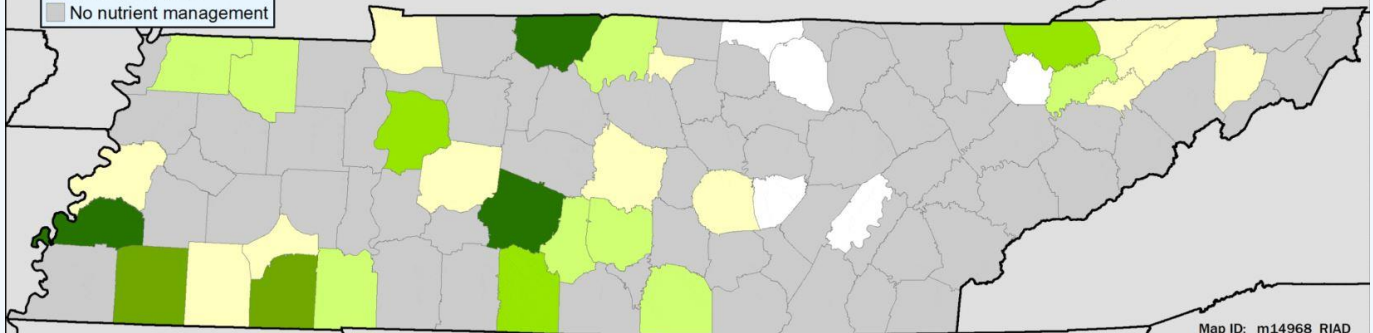
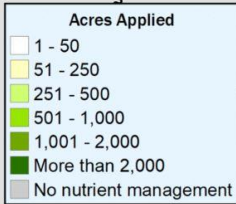
Data Source:
2023 National Planning and Agreements Database (NPAD)
U.S. Department of Agriculture, Natural Resources Conservation Service

Map Source:
U.S. Department of Agriculture,
Natural Resources Conservation Service (NRCS)
Soil Science and Resource Assessment (SSRA)
Resource Inventory & Assessment Division (RIAD)
Beltsville, MD February 2024

2018-2023 Total Acres: 1,019,389

0 25 50 100 Kilometers
Albers Equal Area Projection

Acres of Nutrient Management Applied, 2018 - 2023



Map ID: m14968_RIAD

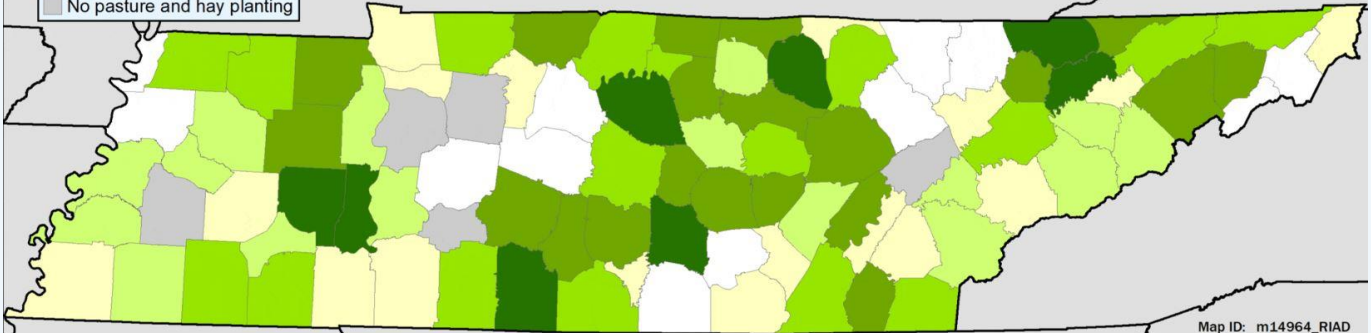
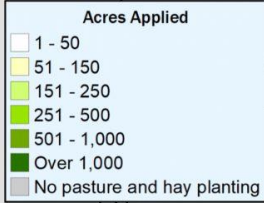
Data Source:
2023 National Planning and Agreements Database (NPAD)
U.S. Department of Agriculture, Natural Resources Conservation Service

Map Source:
U.S. Department of Agriculture,
Natural Resources Conservation Service (NRCS)
Soil Science and Resource Assessment (SSRA)
Resource Inventory & Assessment Division (RIAD)
Beltsville, MD March 2024

2018-2023 Total Acres: 22,345

0 25 50 100 Kilometers
Albers Equal Area Projection

Acres of Pasture and Hay Planting Applied, 2018 - 2023



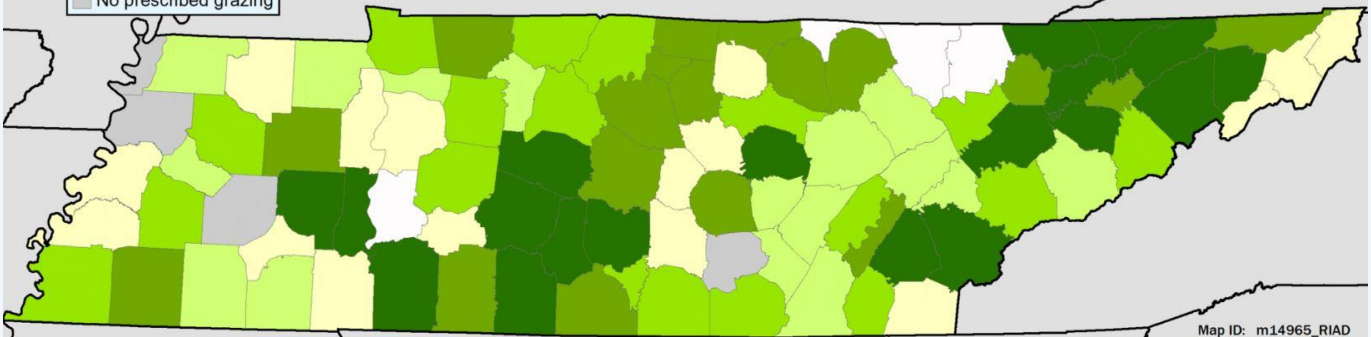
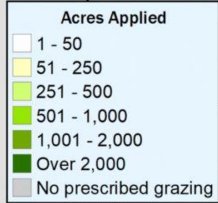
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Data Source:
2023 National Planning and Agreements Database (NPAD)
U.S. Department of Agriculture, Natural Resources Conservation Service

Map Source:
U.S. Department of Agriculture,
Natural Resources Conservation Service (NRCS)
Soil Science and Resource Assessment (SSRA)
Resource Inventory & Assessment Division (RIAD)
Beltsville, MD February 2024

2018-2023 Total Acres: 35,341

Acres of Prescribed Grazing Applied, 2018 - 2023

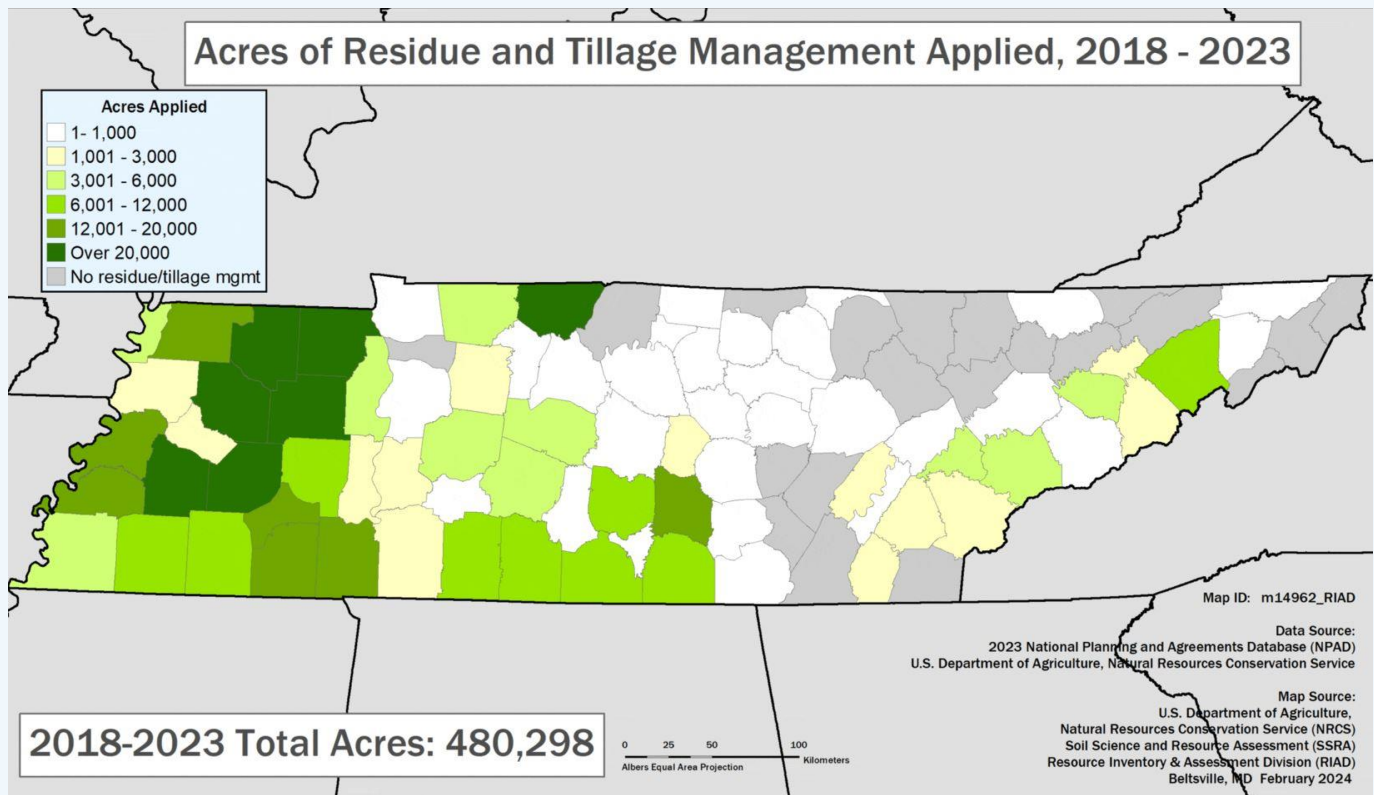


Map ID: m14965_RIAD

Data Source:
2023 National Planning and Agreements Database (NPAD)
U.S. Department of Agriculture, Natural Resources Conservation Service

Map Source:
U.S. Department of Agriculture,
Natural Resources Conservation Service (NRCS)
Soil Science and Resource Assessment (SSRA)
Resource Inventory & Assessment Division (RIAD)
Beltsville, MD February 2024

2018-2023 Total Acres: 114,737

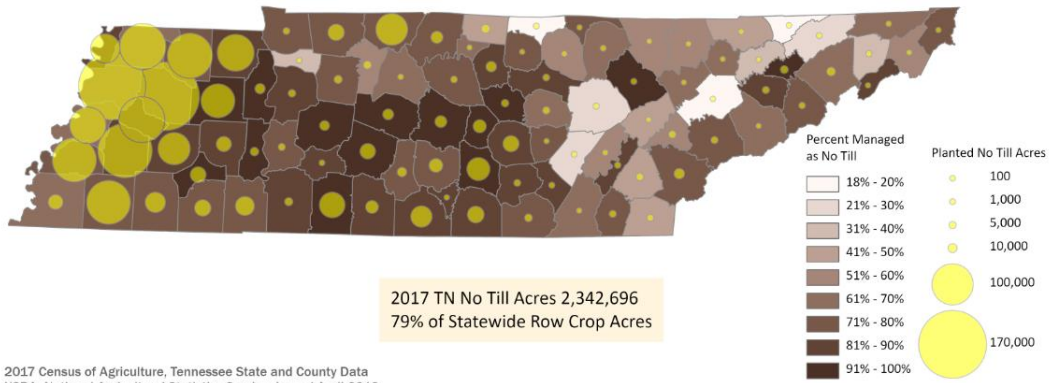


Farming for the Future. Cover Crops: Trends & Next Steps for Tennessee.

<https://www.nrcs.usda.gov/sites/default/files/2022-11/Cover%20Crop%20Trends%20and%20Next%20Steps%20in%20Tennessee.pdf>

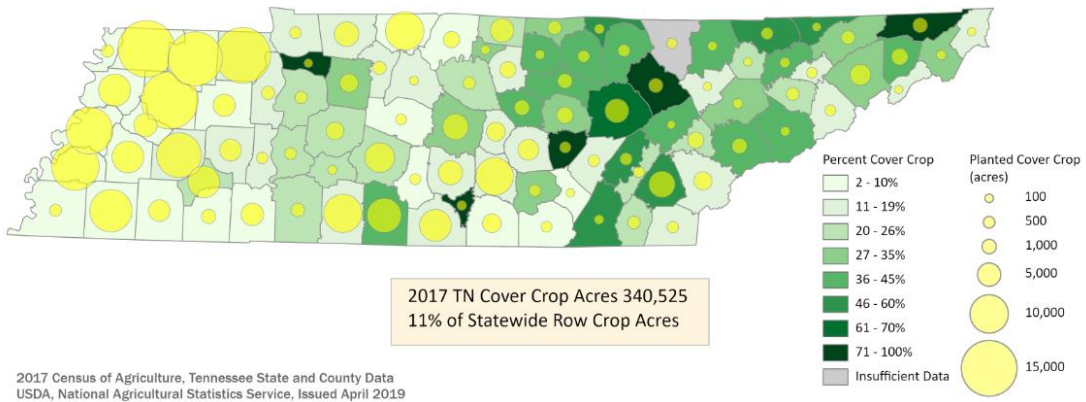
The Tennessee Nature Conservancy published a report in 2022 that addressed the state of cover crop usage in Tennessee. The report's goals were to describe the trends and implications of cover crop practices, present the benefits of the practices, identify challenges and barriers, and discuss practical next steps. In summary, Tennessee farmers should implement cover crop practices to reduce soil erosion and loss, which could ultimately lead to more fruitful cash crop production. Actions to better facilitate the use of cover crops includes establishing farmer-to-farmer learning networks, conducting applied research specific to Tennessee farmer's experiences, develop and implement policy to facilitate and incentivize cover crop adoption, encourage ag retailers to provide conservation services, and increase engagement between the public and Tennessee farmers. By identifying possible solutions and implementing action steps, Tennessee farmers and the broader community can collaboratively ensure the resilience, longevity, and economic success of agriculture in Tennessee.

2017 No Till Acres and Percent of Total Cropland



2017 Census of Agriculture, Tennessee State and County Data
USDA, National Agricultural Statistics Service, Issued April 2019

2017 Cover Crop Acres and Percent of Total Cropland



2017 Census of Agriculture, Tennessee State and County Data
USDA, National Agricultural Statistics Service, Issued April 2019

Middle Fork Bottoms State Park, Madison County

