



Gaining Ground for Healthy Waterways with Sustainable Residential Landscapes

Andrea Ludwig

Assoc. Professor of Ecological Engineering
Stormwater Management Specialist



Julie Berbiglia

Education Specialist





What We Hope to Share With You Today...

- ◆ Extension + Stormwater = Powerful
- ◆ Making it local, pairing people with their watershed
- ◆ Finding carrots and measuring impact

Kentucky
University of Kentucky
Kentucky State University

North Carolina
North Carolina State University
North Carolina A&T State University



Tennessee
University of Tennessee
Tennessee State University

South Carolina
Clemson University
South Carolina State University



Mississippi
Mississippi State University
Alcorn State University

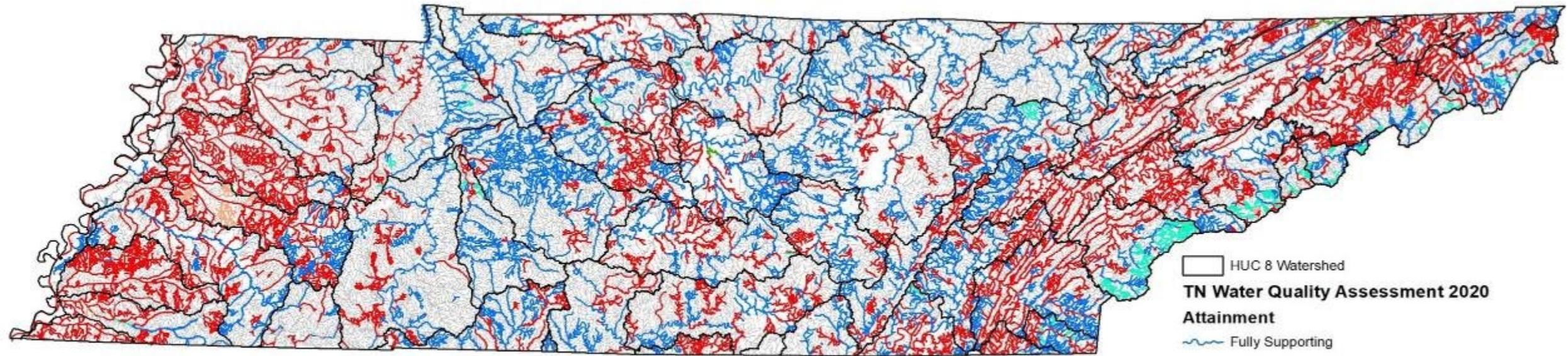
Georgia
University of Georgia
Fort Valley State University



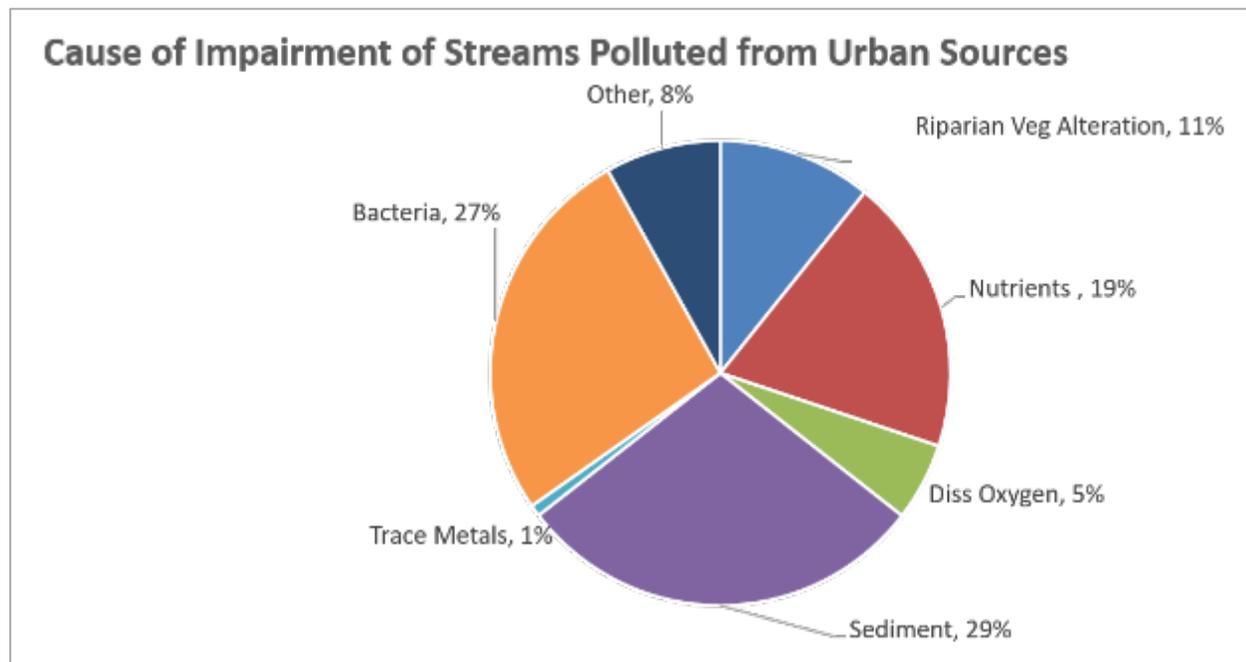
Alabama
Auburn University
Alabama A&M University
Tuskegee University

Florida
University of Florida
Florida A&M University



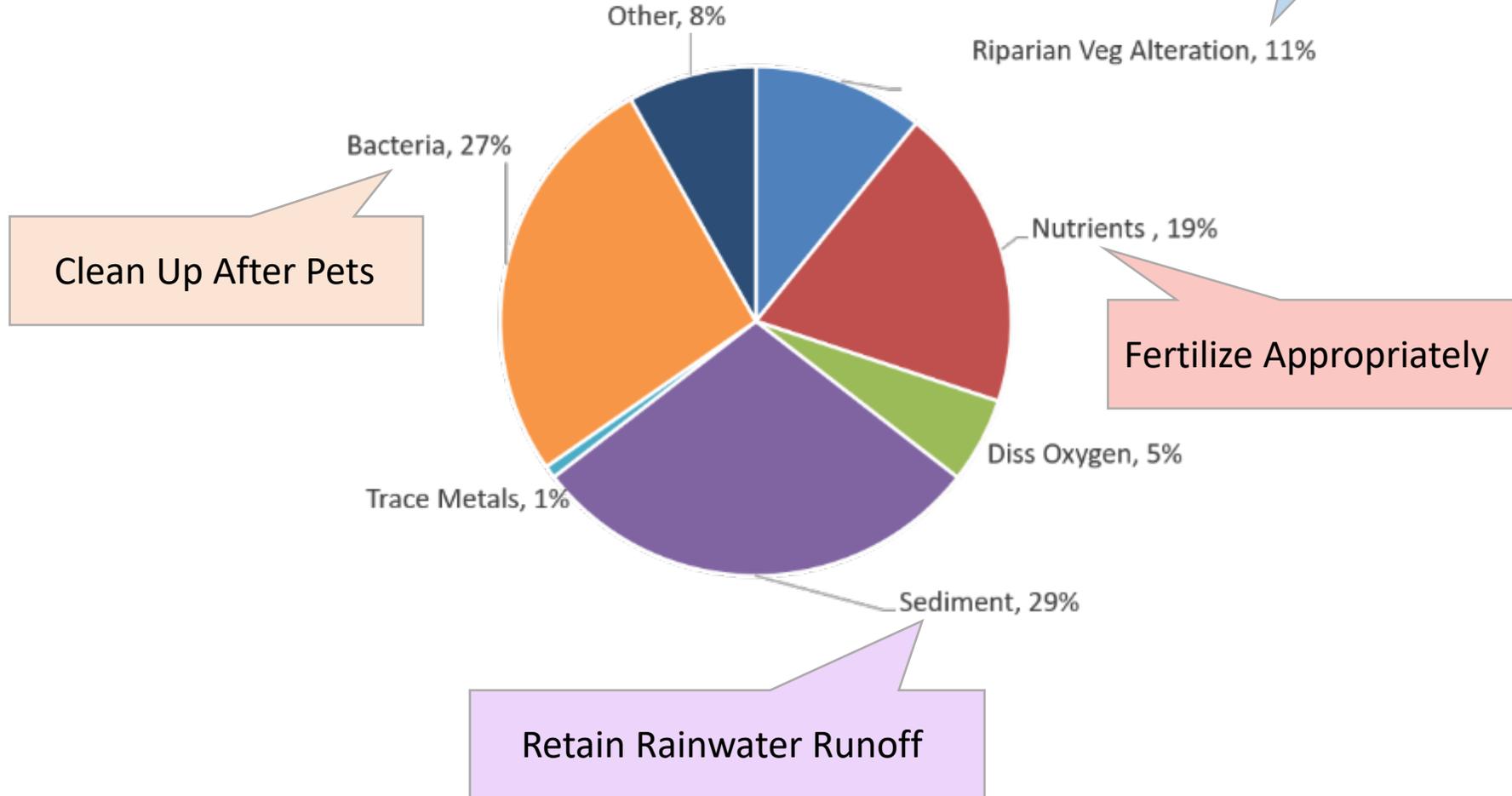


Source: TN Dept of Environment & Conservation, <http://tdeconline.tn.gov/dwr/>



Nearly 4,000 miles of Tennessee Streams impaired by developed land

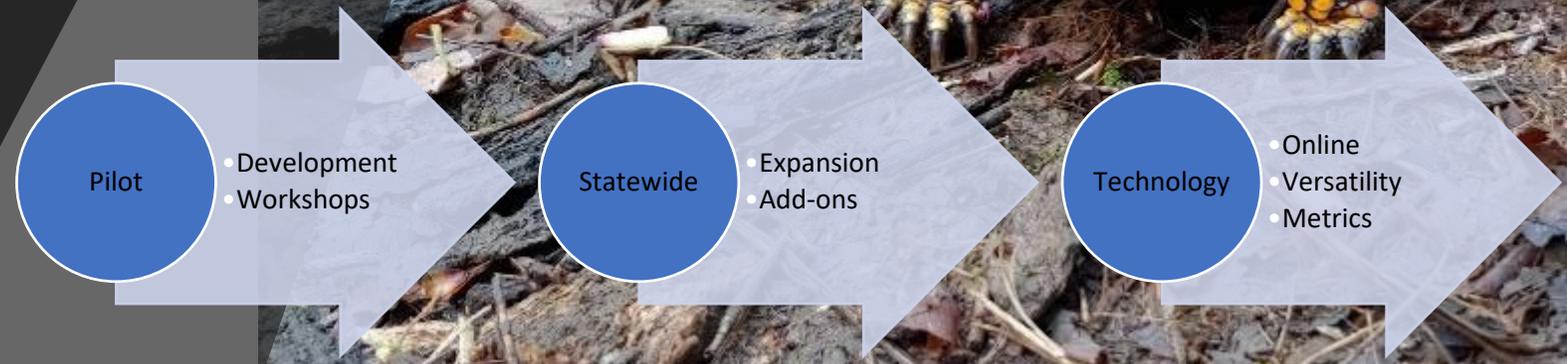
Cause of Impairment of Streams Polluted from Urban Sources



Celebrating over 10 Years of Tennessee Smart Yards!



Knox County
Davidson County / Metro
Hamilton County
Cumberland County
Shelby County
Montgomery County





What is a Smart Yard?

“A yard that is in balance with the local environment for the benefit of both people and our ecosystem.”

THE TENNESSEE YARDSTICK WORKBOOK



Does your yard measure up?

By adopting these simple actions, you can save time and money, make your yard the best it can be, and protect Tennessee's water resources.



TENNESSEE SMART YARDS



Right Plant, Right Place



Manage Soils & Mulch



Reduce, Reuse, Recycle



Water Efficiently



Fertilize Appropriately



Manage Yard Pests



Reduce Stormwater & Pollutants



Provide for Wildlife



Protect Waters Edge



Inching Towards a “Tennessee Smart Yard”

Right Plant, Right Place

1 INCH

Determine your family's landscape objectives (entertainment areas, play areas, etc.) and level of maintenance desired. Value: 2 inches

1 INCH

Assess yard site conditions (light availability, soil characteristics, drainage patterns, etc.) and incorporate into sketch. Value: 2 inches

1 INCH

Sketch your yard including long-term goals. (e.g., space use, aesthetics, level of maintenance). Value: 2 inches

1 INCH

Group plants according to site conditions and their maintenance needs. Value: 2 inches

Remove or avoid using invasive/exotic plants and incorporate native plants. Value: 2 inches

Preserve existing vegetation, especially trees, during land disturbance activities. Value: 2 inches

A certified Tennessee Smart Yard



This certifies that

Your Name Here

have demonstrated a suite of actions and achieved a Tennessee Smart Yard at

Your Address Here, Tennessee



TENNESSEE SMART YARDS

tnyards.utk.edu

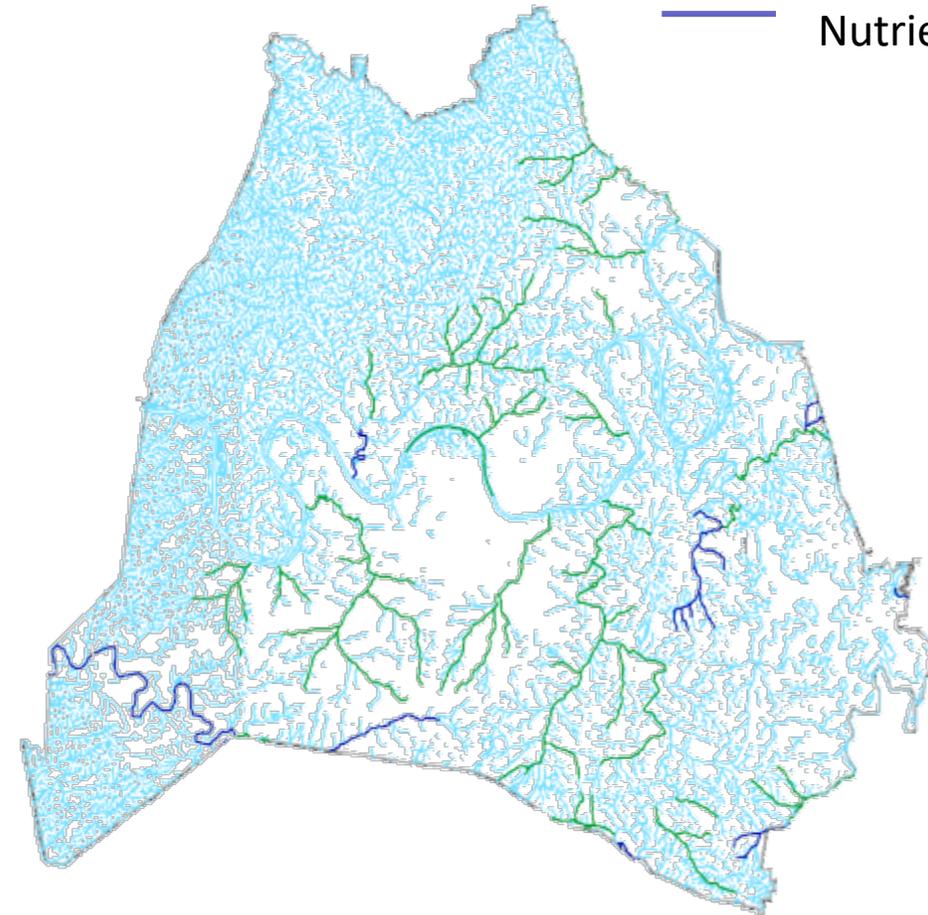
Certification Date: _____

Dr. Andrea Ludwig
Associate Professor & Program Director
University of Tennessee



Water, Wastewater, Stormwater, Waste Services
Nashville, Tennessee

303d Listed Streams
— Pathogens
— Nutrients



Does Your Yard Measure Up?

HOME LANDSCAPE WORKSHOP

DATE: March 19th & 26th
(6 hr workshop) **TIME:** 9 AM–NOON

COST & REGISTRATION:

- \$35 per person or \$50 per couple
- ADVANCE REGISTRATION required
- To register, call Davidson Co Extension at (615-882-5995)

LOCATION:
UT Central Region Office
5201 Merchant Drive
Nashville, TN 37211

TENNESSEE YARDS & NEIGHBORHOODS

LEARN:

- 5 • ESSENTIAL STEPS TO A HEALTHY LANDSCAPE— FOR YOU, YOUR FAMILY AND THE ENVIRONMENT!
- 4 • KEY STRATEGIES TO MANAGING YOUR SOIL, TURF & MULCH
- 3 • HOW TO USE RAIN WATER, RAIN GARDENS & RAIN BARRELS
- 2 • LANDSCAPE DESIGN ESSENTIALS & CURB APPEAL TIPS

RECEIVE: WORKBOOK, \$20 IN CERTIFIED SOIL TEST VOUCHERS, RAIN GAUGE & MORE

www.tnyardsandneighborhoods.tennessee.edu

MARISSA'S FAMILY HAS A "TENNESSEE YARD DONE RIGHT" BECAUSE HER PARENTS MEASURE UP!

TVA **METRO WATER SERVICES** **UT Extension** **Tennessee Water Resources Research Center**



TENNESSEE SMART YARDS

METRO WATER SERVICES **UT EXTENSION INSTITUTE OF AGRICULTURE**
THE UNIVERSITY OF TENNESSEE

MULTIPLE DATES

Smart Gardening with Tennessee Smart Yards

by Metro Water Services [Follow](#)

Free

[Select A Date](#)

2011

2020

NPDES Public Information & Education Plan



Target



Actions



Evaluation



Trusted
Materials



**SUSTAINABLE
IN THE CITY:**
Thinking Upstream

Presented in Partnership By:



12-1 PM FREE



Julie Berbiglia Metro Water
Jennifer Smith City Horticulturist

CREATING A SMART
YARD: COMPOSTING,
POLLUTION
PREVENTION, AND
PLANTING NATIVE



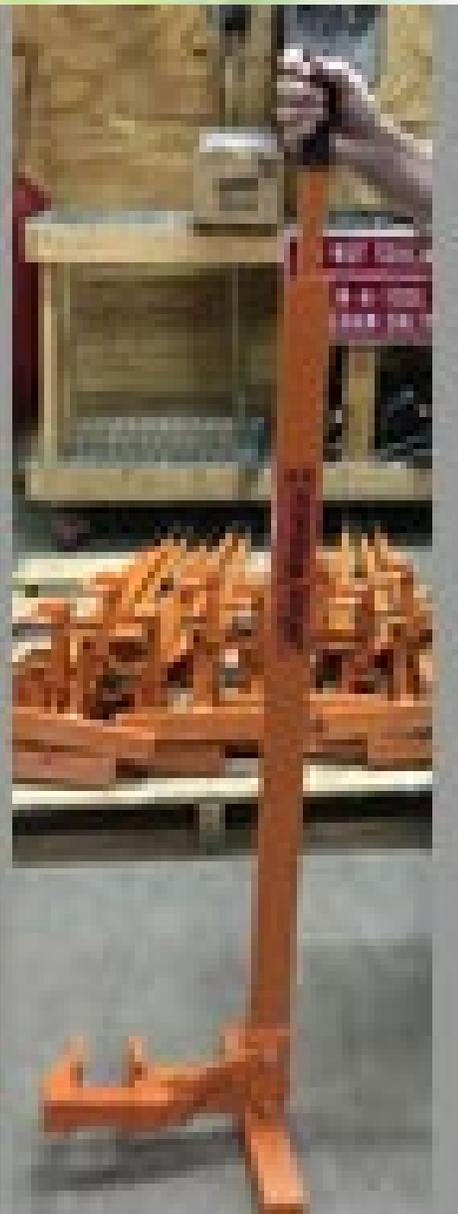
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TUESDAY, APRIL 13, 2021 AT 12 PM CDT

Wise Watering with Tennessee Smart Yards

Free · Online Event





FREE TREE CERTIFICATE

To receive your 1"-caliper (5-8 feet tall) tree:

Forward your Tennessee Smart Yard Certificate to hello@rootnashville.org. Our team will let you know what species are available for you to choose from, and when to expect your tree. Deliveries would take place between mid-October through March each year.

Congratulations!



This opportunity is presented by the citywide tree-planting campaign Root Nashville, led by Metro Nashville and the Cumberland River Compact. The goal of the Root Nashville campaign is to plant 500k trees in Davidson Co. by 2050, and your tree will count towards the goal! Visit rootnashville.org to learn more and to get involved.

Leveraging Social Media Awareness Metro Water Services + Volunteer Gardener + TNSY



Volunteer Gardener

51.1K subscribers

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Clean Genes Farm |
Volunteer Gardener



No Till Agriculture |
Volunteer Gardener



American Heritage Trees |
Volunteer Gardener



Blooming Joy Flower Co |
Volunteer Gardener



A Landscape with Visual
Impact | Volunteer Gardener



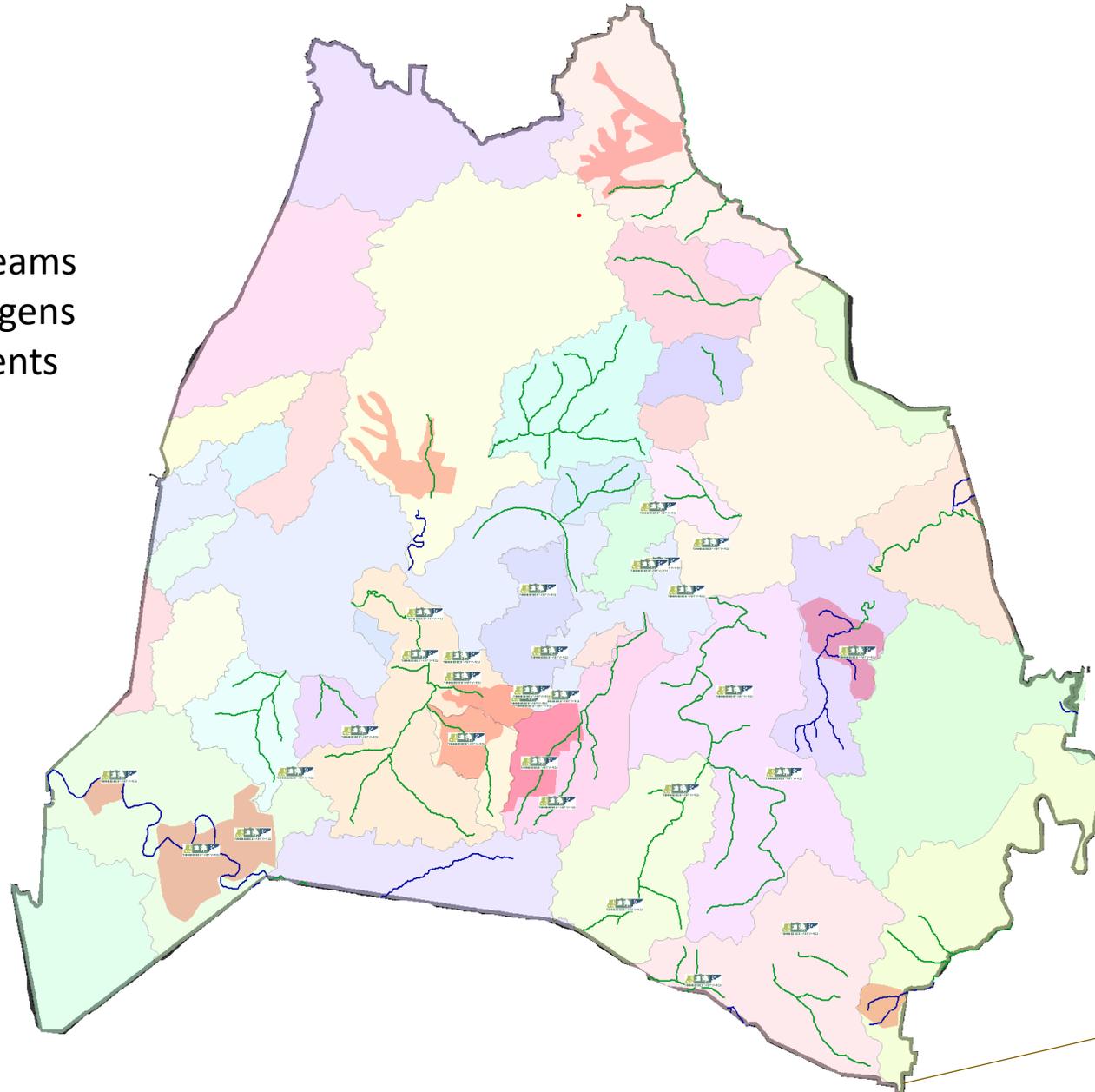
Farm in the City 2021 |
Volunteer Gardener



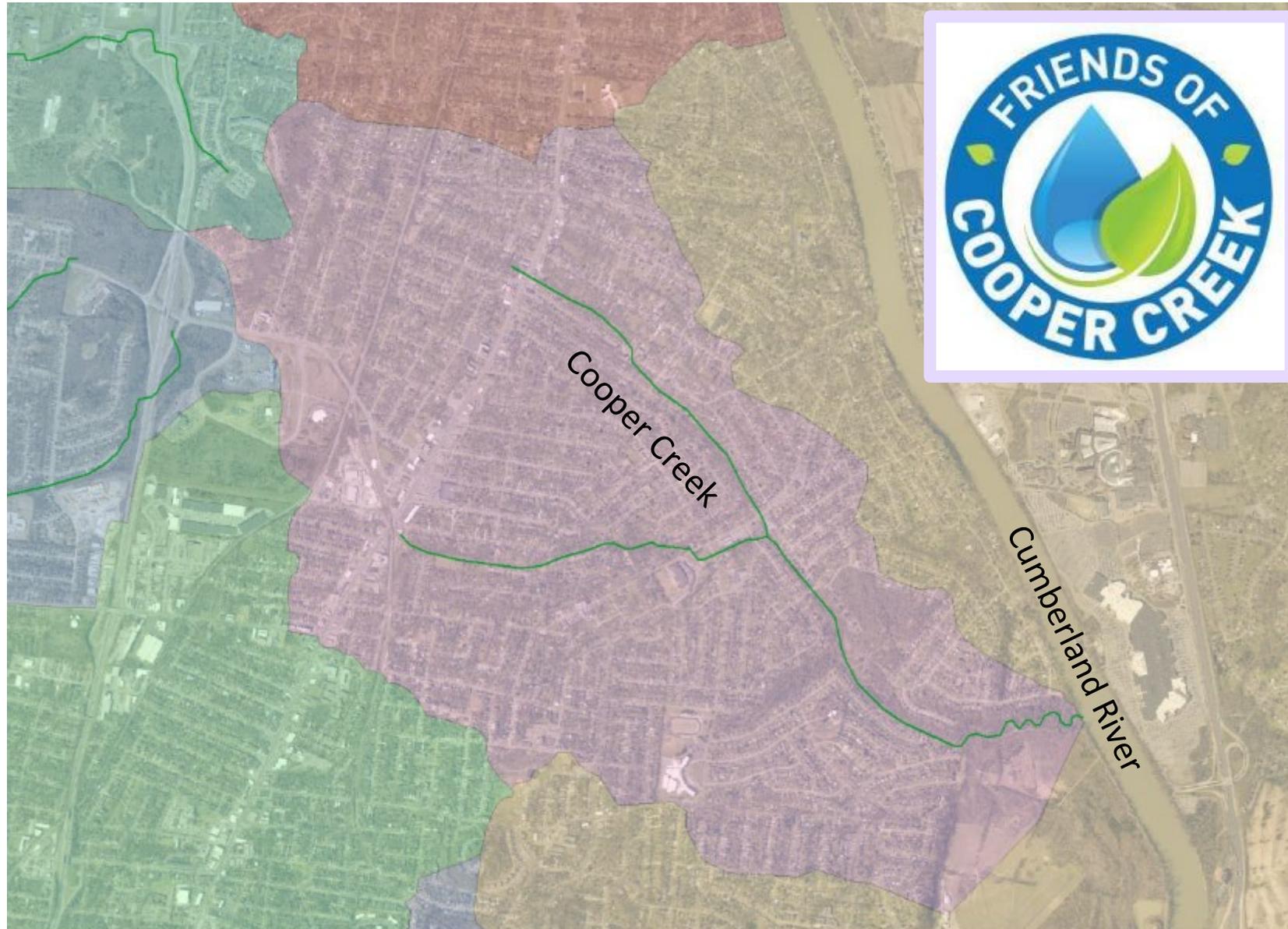
Gaining Ground for Healthy Waterways with Sustainable Residential Landscapes

303d Listed Streams

-  Pathogens
-  Nutrients

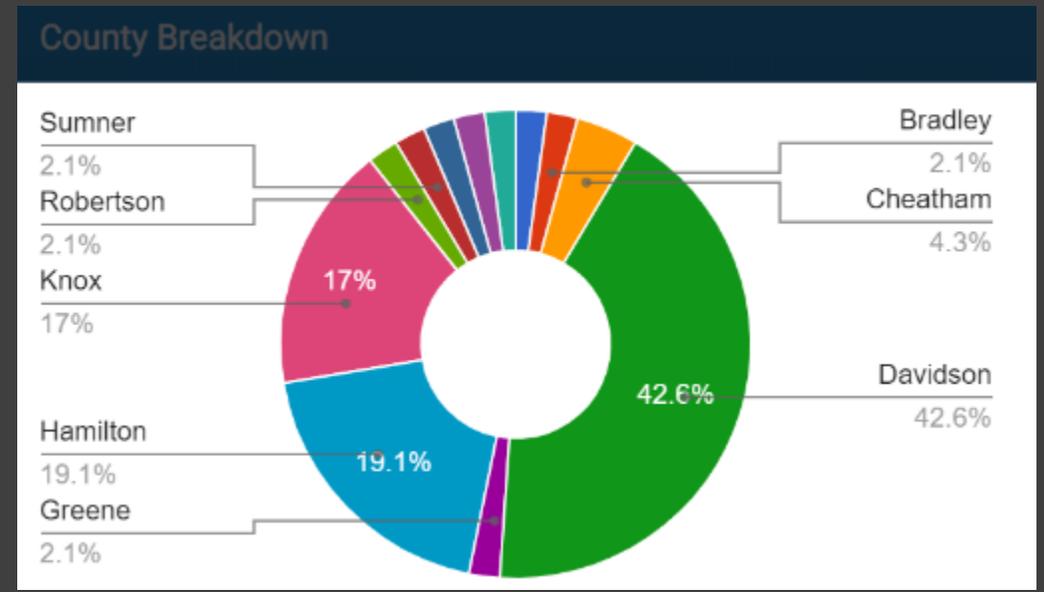


Next: Pairing people with their watershed





- 57% Practicing Good Housekeeping
- 38% Using Rain Barrels
- 25% Using Permeable Surfaces
- 18% Built a Rain Garden



Extension Publications

Sustainable Landscaping Planning and Plant Selection

Andrea Lushaj, Associate Professor and Extension Stormwater Management Specialist
Department of Stormwater Management and Soil Science

"Our ability to perceive quality in nature begins, as in art, with the pretty. It expands through successive stages of the beautiful to values as yet uncapable of language."

As appropriate, landscape design that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Landscaping is a beautiful state with a variety of landscapes for all tastes. The outdoor beauty of unique landscapes of our state can be preserved with some forward and backward landscaping. Each property does not need a full garden. It is a part of a larger ecosystem where unique characteristics of each water feature should be kept in mind. The unique characteristics of each landscape design should be taken into account to create a sustainable landscape design. This is where concepts of sustainable landscaping help provide long-term solutions that benefit your landscape and the entire community. Sustainable landscaping is an emerging field of suggestions to make home and landscape design more sustainable and appealing. Landscape architects and designers can help you design a sustainable landscape that can be maintained with minimal effort.

Red Life Solutions™

LEVERAGING YOUR LANDSCAPE: A GUIDE TO EVALUATING AND PLANNING FOR FUNCTIONAL, ENJOYABLE OUTDOOR SPACES

Andrea Lushaj, Associate Professor and Extension Stormwater Management Specialist

HOW TO USE THIS GUIDE

This publication is intended to help you evaluate and design the functional outdoor spaces in your yard. It is a guide to help you evaluate and design your outdoor spaces. It is a guide to help you evaluate and design your outdoor spaces. It is a guide to help you evaluate and design your outdoor spaces.

DETERMINING IMPORTANT NEEDS IN YOUR LANDSCAPE AND PLANNING TO ACHIEVE THEM

The first step in changing the function of an outdoor space is to assess outdoor for the space. Some questions to consider include:

- What do you want or need from your outdoor space?
- What is your yard's climate and how can you make the most of it?
- How do you want to spend your time in it?
- What needs to be repaired and what do they need to be fixed?
- What level of maintenance is practical for your lifestyle?
- Who will be responsible for the upkeep and maintenance?
- How will you maintain it?
- What is your budget?

Once all these questions are answered, you will likely have a long list of needs and wants. While it is good to understand the ability of what is needed to address a lot of the needs on your list, it can quickly become overwhelming. Prioritizing these needs will allow you to consider options and set realistic goals. You will be a more effective and manageable plan. Allow your list to be a guide to help you. This list will help identify short-term goals to two years and long-term goals to five years. It is also a good idea to have a backup plan in case of an emergency.

Red Life Solutions™



Tennessee Storm-SMART Glossary of Terms for Communities

W. Scott
Department of Stormwater Management and Soil Science

Introduction

This glossary of stormwater-related terms was created to assist communities in understanding the language of stormwater management. The glossary is intended to be a resource for communities and professionals alike.

Common Acronyms

DEP — Dept. of Environment and Conservation	MS4 — MS4
EPA — Environmental Protection Agency	NRCS — NRCS
ESD — Emergency Services Division	NSF — NSF
ET — Erosion/Terracing	OSM — OSM
EUT — Erosion/Terracing Unit	SW — SW
ET — Erosion/Terracing	USDA — USDA
EUT — Erosion/Terracing Unit	USDA — USDA

Rainwater: Your Liquid Asset A Home Stormwater Exercise

Andrea Lushaj, Associate Professor and Extension Stormwater Management Specialist

What is stormwater runoff?

Stormwater runoff is the water that flows over the ground or pavement when it rains. It is the water that runs down the street, down the driveway, and down the gutter. It is the water that flows into the stormwater system.

Where does it come from?

Stormwater runoff comes from many sources. It can come from the roof of your house, from the driveway, from the street, and from the ground. It can also come from the air, from the clouds.

Improving Stream Channels, Ditches and Lakeshores With Live Staking

Andrea Lushaj, Associate Professor, Department of Stormwater Management and Soil Science

What is live staking?

Live staking is a technique for stabilizing stream banks and ditches. It involves planting live trees and shrubs in the soil. The roots of the plants help to hold the soil in place and prevent erosion. Live staking is a natural and effective way to improve stream channels, ditches, and lakeshores.

Where do I use live staking?

Live staking is used in a variety of situations. It is used to stabilize stream banks, ditches, and lakeshores. It is also used to improve water quality and to create wildlife habitat.

How do I implement live staking?

There are several steps to implementing live staking. First, you need to select the right species of plants. Then, you need to prepare the soil and plant the plants. Finally, you need to maintain the plants over time.

Materials:

- Gloves, hand shapers
- Ladder
- Plastic buckets or bags
- Shovel
- Tarp or tarp
- Live staking plants
- Live staking plants
- Live staking plants
- Live staking plants

“What are you looking forward to?”

Terrific program! Very helpful information that will motivate me to continue taking appropriate actions to **preserve our natural resources**.

We hope with the metal yard sign we can **inspire others to change** to a TN Smart Yard.

I have enjoyed working with the ecosystem around me, incorporating practices and plantings that encourage birds and wildlife to share our space. I look forward to the day we are able to **install rain barrels** and improve our **water catchment and storage** for use in the garden. I also look forward to **installing a rain garden or pond** in one of our low spots.

Minimizing and/or eliminating the use of chemicals to **protect our waterways and regenerate soil** with organics is a top priority.





Acknowledgements

TN Dept of Agriculture 319
Nonpoint Source Program

Sustainable Residential
Landscapes Workgroup, UT
Extension

Tennessee Stormwater Association

Water Quality Program, Metro
Water Services



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