

Wake Green Schools Partnership

March 9, 2020

Kick-off Event for Teachers



Thank you to our
sponsors!



Today's Schedule:

9:00-10:25:

Presentations, Spotlight Schools
Partnership Introductions

10:30-12:00:

Self-Guided Partnership Building with
table vendors and Spotlight School
Representatives

Thank you to our
partners and
teammates!

Stephanie Avett

Env Educators of NC

Krista Brinchek

Abbott's Creek

Lauren Daniel

NC Div Water Resources

Mike Dupree

Durham Soil & Water

Barbara Fair

Kingswood Elementary School

Jennifer Fine

WCPSS Elementary Science

Bianca Howard

Wake Co Solid Waste

Sheila Jones

Wake SWCD

Jill McGowan

Millbrook Elementary Schol

Christy Perrin

NC WRRI/ NC Sea Grant

Sherry Schliesser
principal

Kingswood Elementary School,

Laura Woods

Lincoln Heights Elementary

Thank you to our partners & teammates!



Presenters



- Sherry Schliesser, Kingswood Elementary
- Dan Schnitzer, Chapel Hill Carrboro Schools Sustainability
- Kathryn Stevenson, NCSU College of Natural Resources
- Marty Wiggins, Office of Education & Public Affairs, NC DEQ
- Sue Scope, Every Tray Counts
- Mitch Woodward, Wake County Cooperative Extension

Wake County Green Schools Partnership Mission

Create network of educators and community leaders in order to:

- Inspire environmental projects on school campuses
- Connect educators with community resources for their classrooms
- Build momentum with environmental conversations and opportunities

Take time today to have conversations, ask questions, and make connections with what interests and benefits your students!



Sustainability at Chapel Hill-Carrboro City Schools

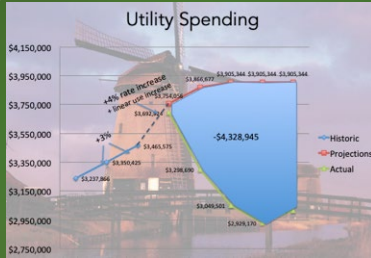


Dan Schnitzer
dschnitzer@chccs.k12.nc.us
Sustainability Director
3.09.20



What is Sustainability In Schools?

Where Should I Start?



Energy
Management



Compost/Recycling



Gardens



Waste Reduction



Bees



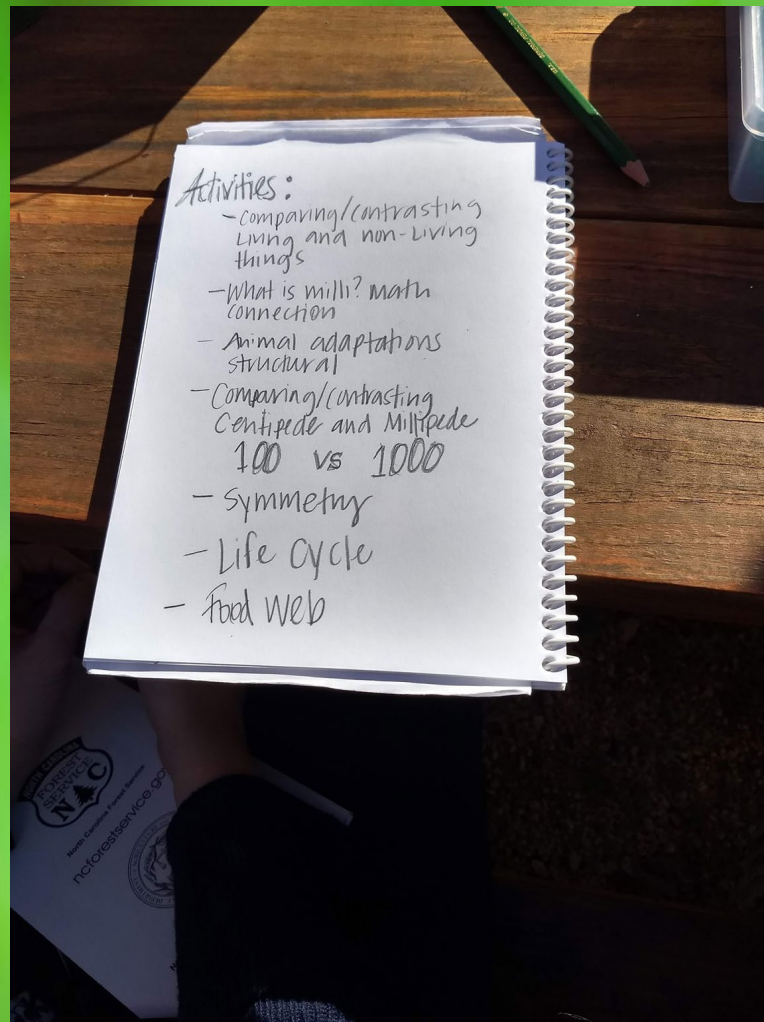
Equipment



Student Engagement



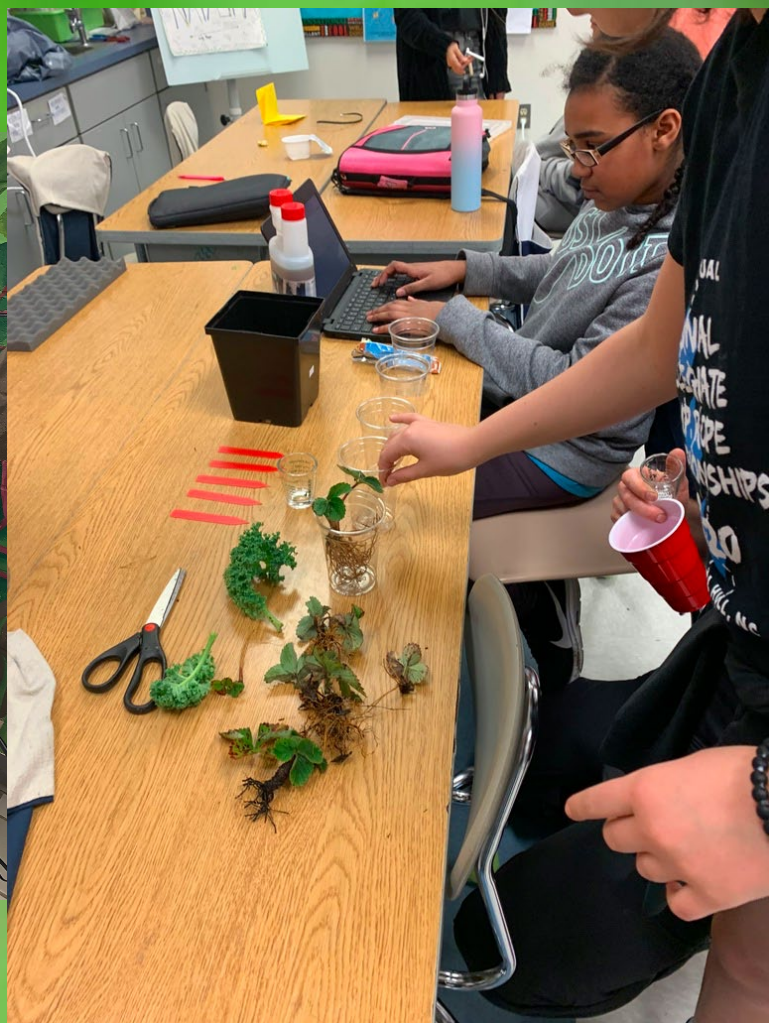
Clean Power



- Activities:
- Comparing/contrasting living and non-living things
 - What is milli? math connection
 - Animal adaptations structural
 - Comparing/contrasting Centipede and Millipede 100 vs 1000
 - Symmetry
 - Life cycle
 - Food Web

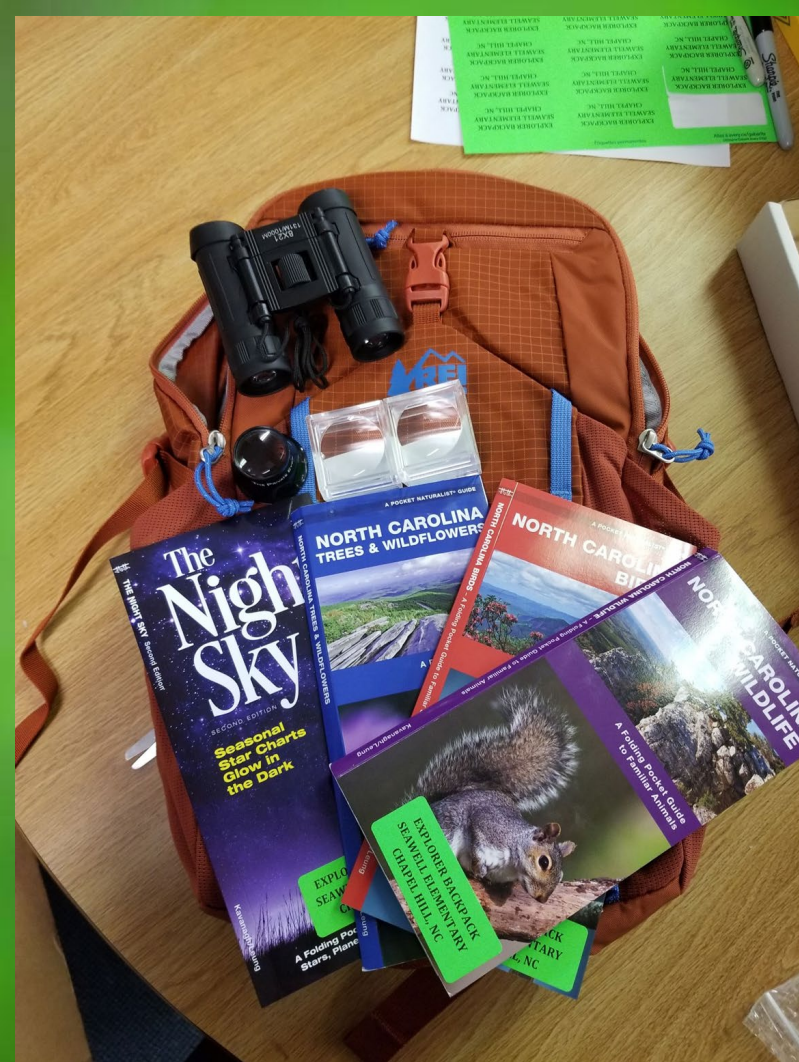














125 Acer Chrombooks \$200
each. \$25,000

Why Environmental Literacy?



Kathryn Stevenson

NC State University

kathryn_stevenson@ncsu.edu

Go.ncsu.edu/stevenson

NC STATE
UNIVERSITY

College of
Natural Resources

What is environmental literacy?

Knowledge

- Natural systems
- Human systems

Dispositions

- Attitudes
- Enviro. Sensitivity
- Connection to Nature

Competencies

- Issue Analysis
- Action planning

Motivations

- Individual & collective behaviors

Why should we care?



How do we build environmental literacy?

N.C. ENVIRONMENTAL EDUCATION



naaee

North American Association
for Environmental Education

**ENVIRONMENTAL
EDUCATION**



What does the NC State EE Lab Do?

- We love measuring the good work YOU do!
 - Generate evidence through research projects
 - Help you access research
 - Conduct evaluation
 - Can help you tell your story

**NC STATE
UNIVERSITY**

EE Lab at NC State

Identifying drivers of environmental literacy

go.ncsu.edu/stevenson

eeRESEARCH 

children & nature
NETWORK 

 **naaee**
North American Association
for Environmental Education

naaee.org/eeopro/research/library

ENVIRONMENTAL EDUCATION LAB



IDENTIFYING DRIVERS OF ENVIRONMENTAL LITERACY

**NC STATE
UNIVERSITY**

Department of Parks, Recreation, & Tourism Management
Department of Forestry & Environmental Resources
Department of STEM Education
Department of Curriculum & Instruction



Dr. Kathleen Stevenson
Assistant Professor, WFSM
kstevan_k@ncsu.edu



Jenna Hartley
Ph.D. Student
jhartley@ncsu.edu



Brent Jackson
Ph.D. Student
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Sara Brune
Ph.D. Student
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Caitlin Kelly
M.S. Student
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Dr. Christine Lawson
USDA-NIFA Postdoctoral Fellow
christine_lawson@ncsu.edu



Lauren Gibson
Ph.D. Student
lgibson@ncsu.edu



Jonathan Zhang
Ph.D. Student
jzhang@ncsu.edu



Marine Debris

Jenna is a former teacher that thinks kids and teachers are awesome! She is examining the impact of North Carolina 4th & 5th grade students on their local communities regarding the topic of marine debris. The teachers and students are using a marine debris curriculum from the Duke University Marine Lab. **Email Jenna if you're interested in joining this summer's Marine Debris workshop in Beaufort, NC! The dates this year are June 18-19, 2020.**

Interested in learning more? Check out the free curriculum here:
bit.ly/EEDebrisCurriculum

For more information about this project, please contact Jenna at jenna_hartley@ncsu.edu



Childhood & Nature

Brent's research is aimed at understanding the childhood experiences that lead to lifelong relationships with nature. Through the use of interviews and surveys Brent will identify childhood pathways that contribute to the development of environmentally literate adults. This research will highlight what environmental education efforts are effective, and for whom. **We would love your class to participate in a 10-15 min survey! Sign up for more information!**

If you would like to learn more about this research please sign up or contact Brent Jackson at sbjackson@ncsu.edu.



Agritourism & food

Sara and Caitlin are working on a USDA-NIFA funded project that is working to connect kids and families with where their food comes from.

One aspect of the project is to offer training for teachers in Project Food, Land, and People (www.foodlandpeople.org); link teachers to local farm field trips; and support teachers throughout the year as they teach their students more about local foods. We will then measure impact on teachers, students, and families. **If you're interested in participating in the study and having the opportunity to take your class to a local North Carolina farm, please sign up, and we will be in touch.**

More information please sign up or contact:
sbrune@ncsu.edu or cereill3@ncsu.edu.



Climate Change

After working as an environmental educator, Danielle noticed how impactful students can be in their own families and communities. Currently, Danielle investigates on how high school agriculture students can impact their families views of climate change. She has previously done this work with middle school students and a wildlife-based curriculum.

Are you a middle school teacher interested in the wildlife curriculum? Check it out for free by going to: <http://go.ncsu.edu/wwcc>

Are you a high school agriculture teacher interested in the research or would like to participate? Sign up or Email Danielle at danielle_lawson@ncsu.edu.



High Schools & Water Quality

Lauren is studying how high schoolers can influence their broader community's knowledge and beliefs on environmental issues, with a specific focus on water quality.

This summer, a **free two-day professional development workshop** will be offered to **high school environmental science teachers** interested in implementing a **Duke water quality curriculum** in their classroom as part of this research project.

Please reach out to Lauren at lgibson@ncsu.edu for more information.

How can you get involved?

- Help us measure the good work you do!
 - See us at the exhibit time
 - Engagement with Nature project recruiting!
- You tell us what you need
- Keep in touch: go.ncsu.edu/stevenson

***Thank you for all you
continue to do for our
kids!***

Kathryn Stevenson

NC State University

kathryn_stevenson@ncsu.edu

[Go.ncsu.edu/stevenson](https://go.ncsu.edu/stevenson)

**NC STATE
UNIVERSITY**

College of
Natural Resources

Marty Wiggins

Office of Environmental Education and Public Affairs

N.C. Department of Environmental Quality



Marty.Wiggins@ncdenr.gov
919-707-8124
@northcarolinaee



Connecting Classroom Teachers and Nonformal Educators since 1990!

eenorthcarolina.org



YOUR state office for environmental education resources and professional development



- Environmental Education Certification Program
- Information Clearinghouse: eenorthcarolina.org
- 200+ EE Centers Listed
- ~2000 Yearly Calendar Events
- Grants and Contests
- Email Listserv (It's CRAZY GOOD)



How to find resources, workshops, EE news and research,
online training and more...



eenorthcarolina.org

- Calendar of Events
- EE Center Directory
- NC-EE Listerv
- “Teachable Moments” Blog
- @northcarolinaee TWEETS!
- And facebook too...

Speaking of EE Certification and Making Connections...



ETC: Who We Are

NC non-profit organization
working in schools
with children, parents
& the community

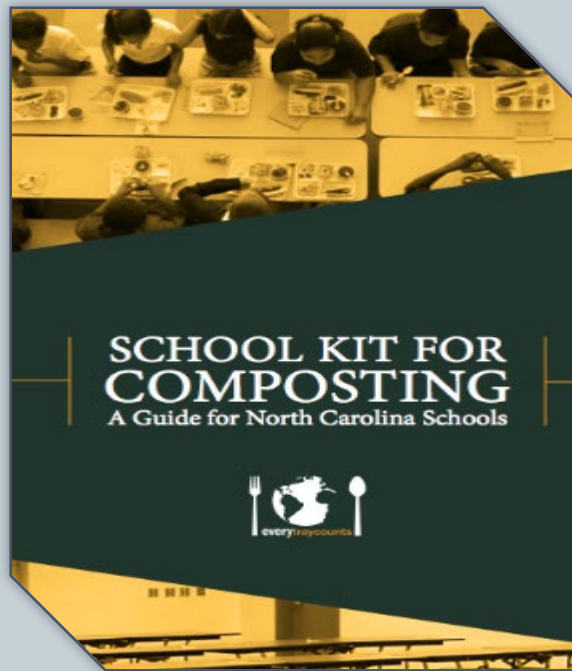


✓ cost-effective green
purchasing

The School Kit

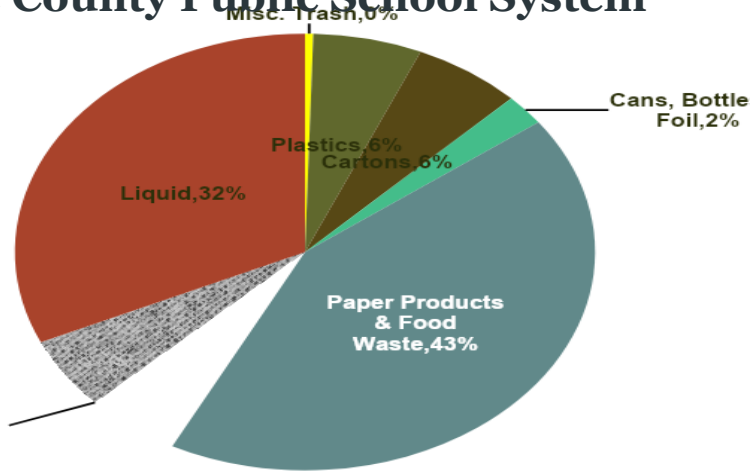


- The Guide to Our 4 Programs
- Lunchroom Operations Rollout Information
- Educational Resources
- Videos

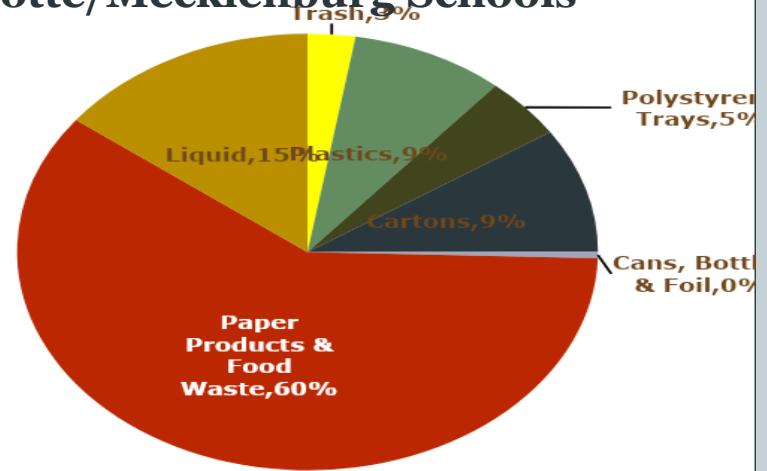


Using the School Kit

Waste Audit Results 217.7 Lbs. Collected Millbrook Elementary- WCPSS Wake County Public School System



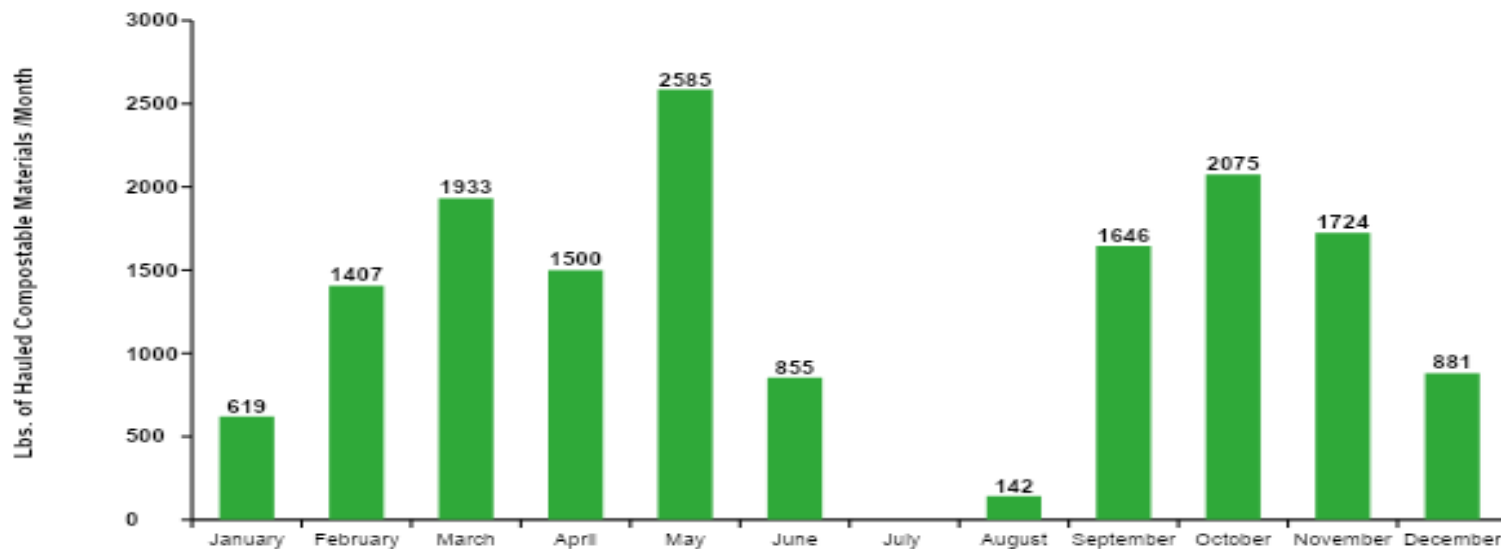
Waste Audit Results 346.1 Lbs. Collected White Water Middle School- CMS Charlotte/Mecklenburg Schools



Full Year - Impact Report



Kingswood Elementary School Impact Report 2018
Total Hauled = 7.7 Tons - Compost Created = 1.9 Tons



Compostable Waste
Collected 4680 Lbs.

Compost Created
1,170 Lbs.

Methane Avoided
608 Lbs.

CO2 Equivalent
12,167 Lbs.





Thank you to Wake County for helping schools go sustainable!

Protecting Water Resources: LID Options for Schools

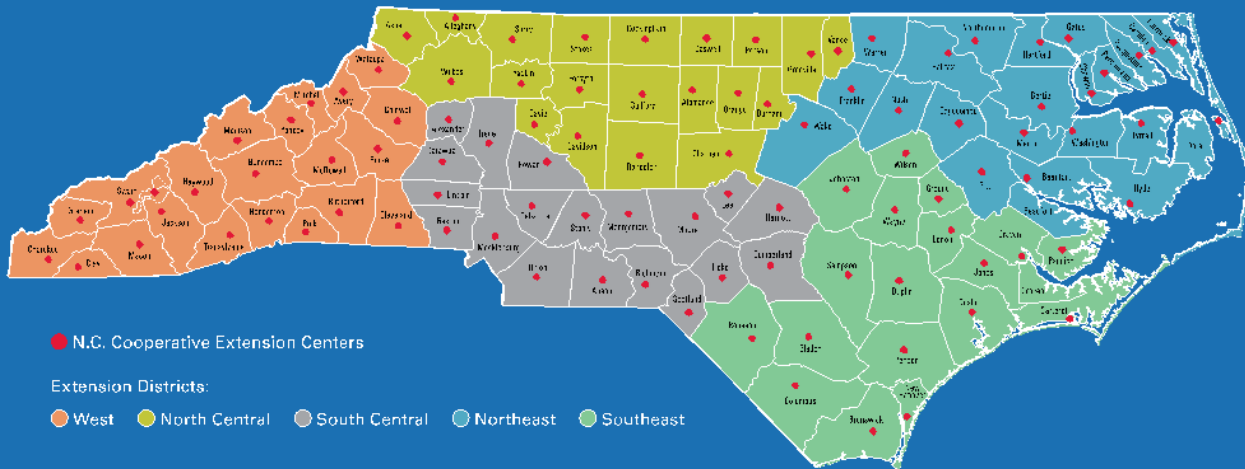
Mitch Woodward
Area Spec. Agent
NC Cooperative Extension - NCSU



Cooperative Extension in North Carolina

101 Local Centers, 1,058 Professionals

NC State Extension supports locally-focused services in every North Carolina county and the Eastern Band of Cherokee. County centers house 619 NC State professionals, while another 439 faculty and staff on NC State's campus work with Extension in some capacity.



In 2019, we connected with
1,544,159M
people face-to-face via
13,000+ programs*

* Directly engaged in the learning process individually or as part of a group.



\$2.1B
Extension's annual economic
impact on North Carolina[†]

[†]FFC to my Partners, LLC, independent analysis of economic impact, including N.C. Cooperative Extension partnership, in 2018.

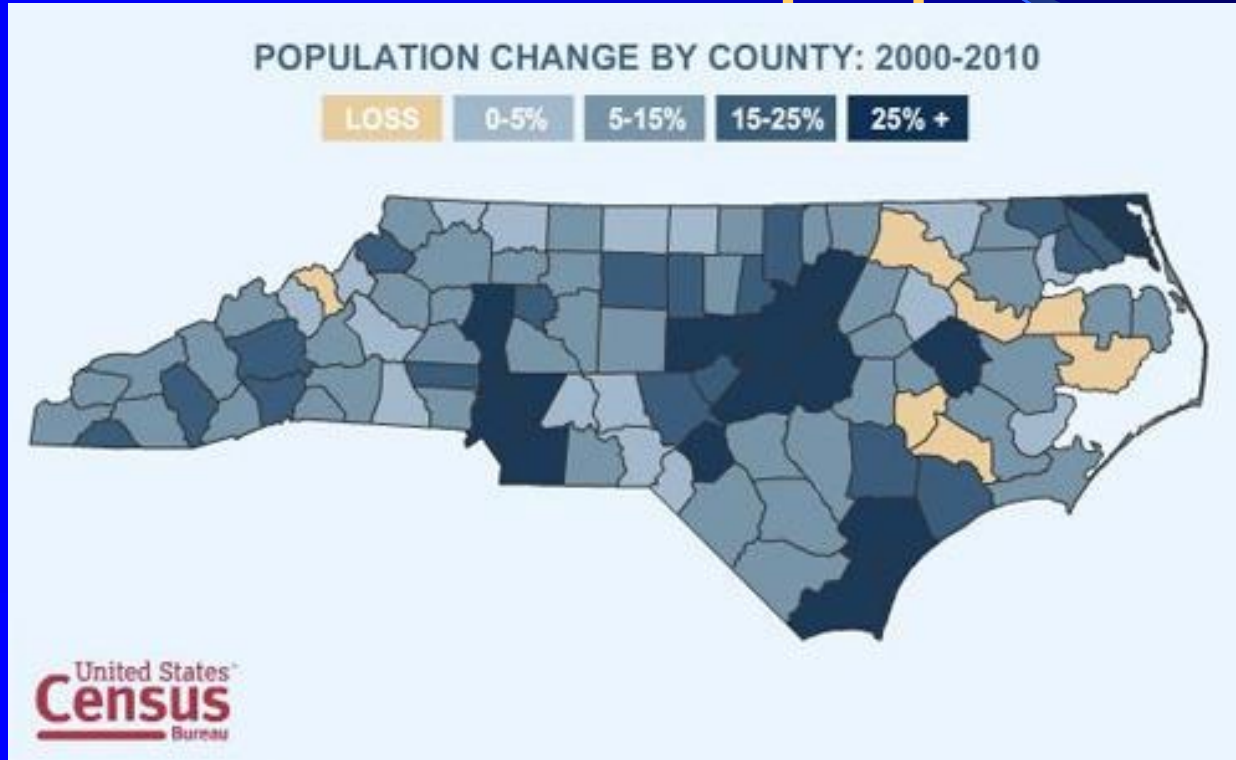


2.6M
Unique visitors to Extension sites
8.1M
Total pageviews

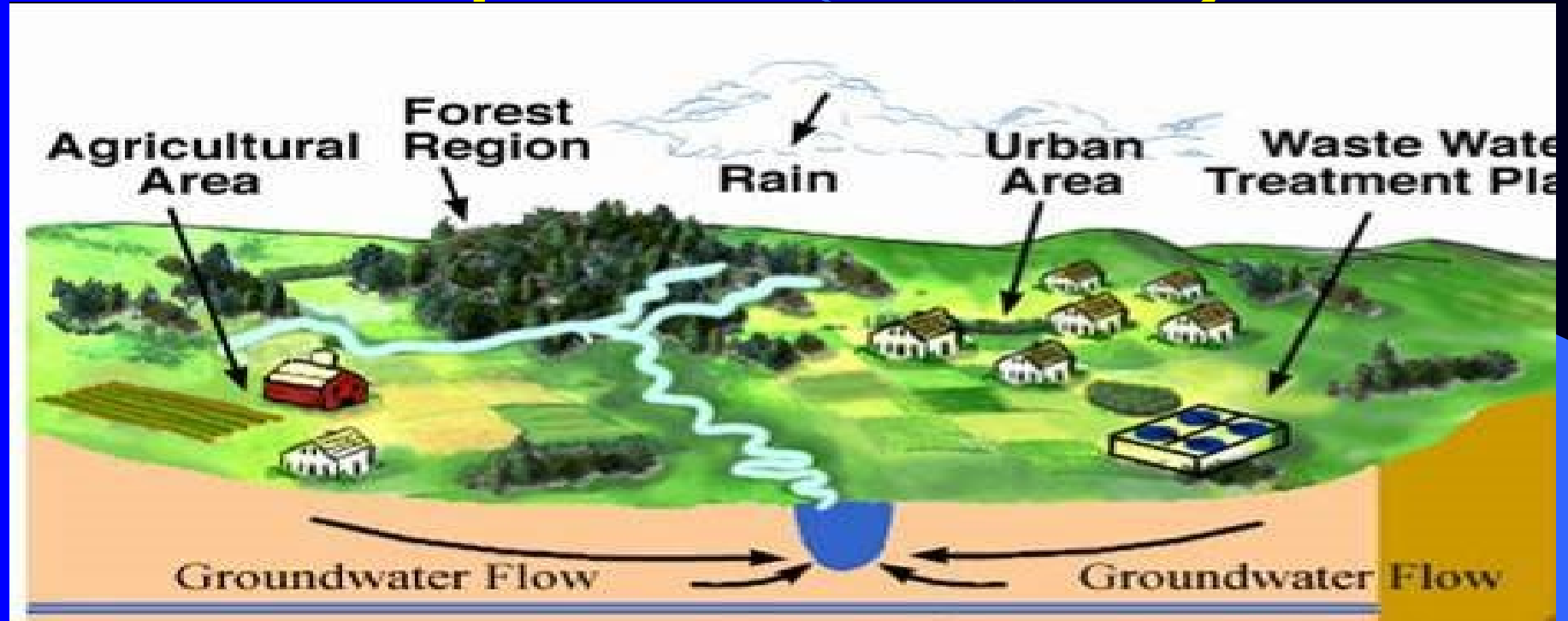


27-1
ROI
Economic return on government
investments in Extension

NC 6th fastest growing state, 10th most populous



People Impact Land Use Impacts Water Quality

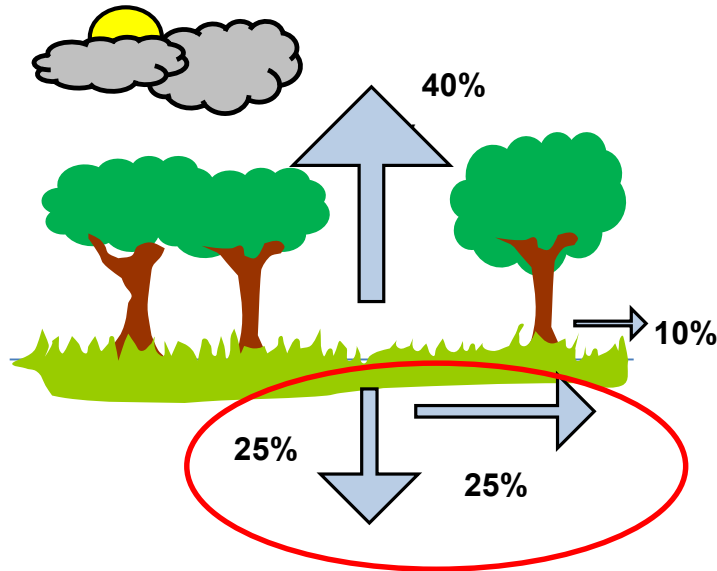


Top of Watershed

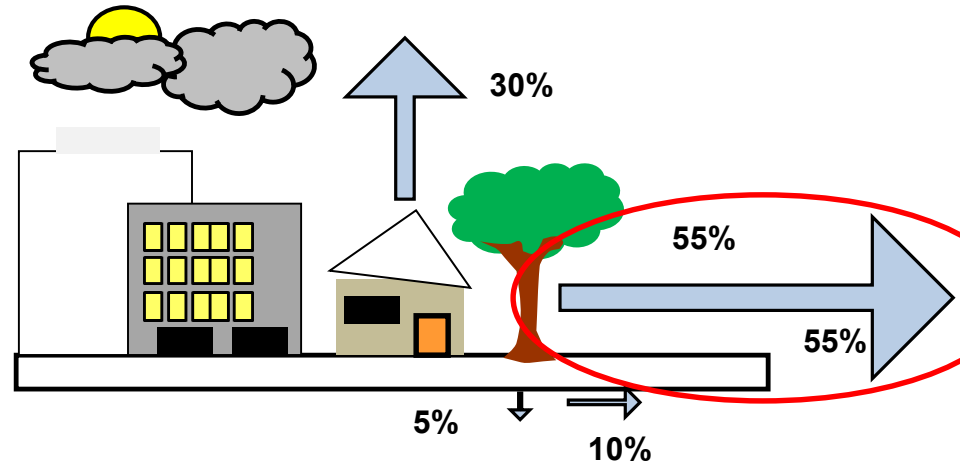


Bottom of Watershed

Pre- vs Post-Development Hydrology



**PRE-DEVELOPMENT
HYDROLOGIC BUDGET**



**POST-URBANIZATION
HYDROLOGIC BUDGET**



How Much Water Runoff Can Be Captured?

1" rainfall on 1 sqft = 0.63
gallons*

= 30 gallons / sqft / yr*

*Note – 45 – 50 Inches of rainfall / yr
average in most of NC

Watershed Imperviousness > 10-15% = Water Quality Impacts



<https://chiclikemayo.wordpress.com/2013/12/15/rotting-in-suburbia/>

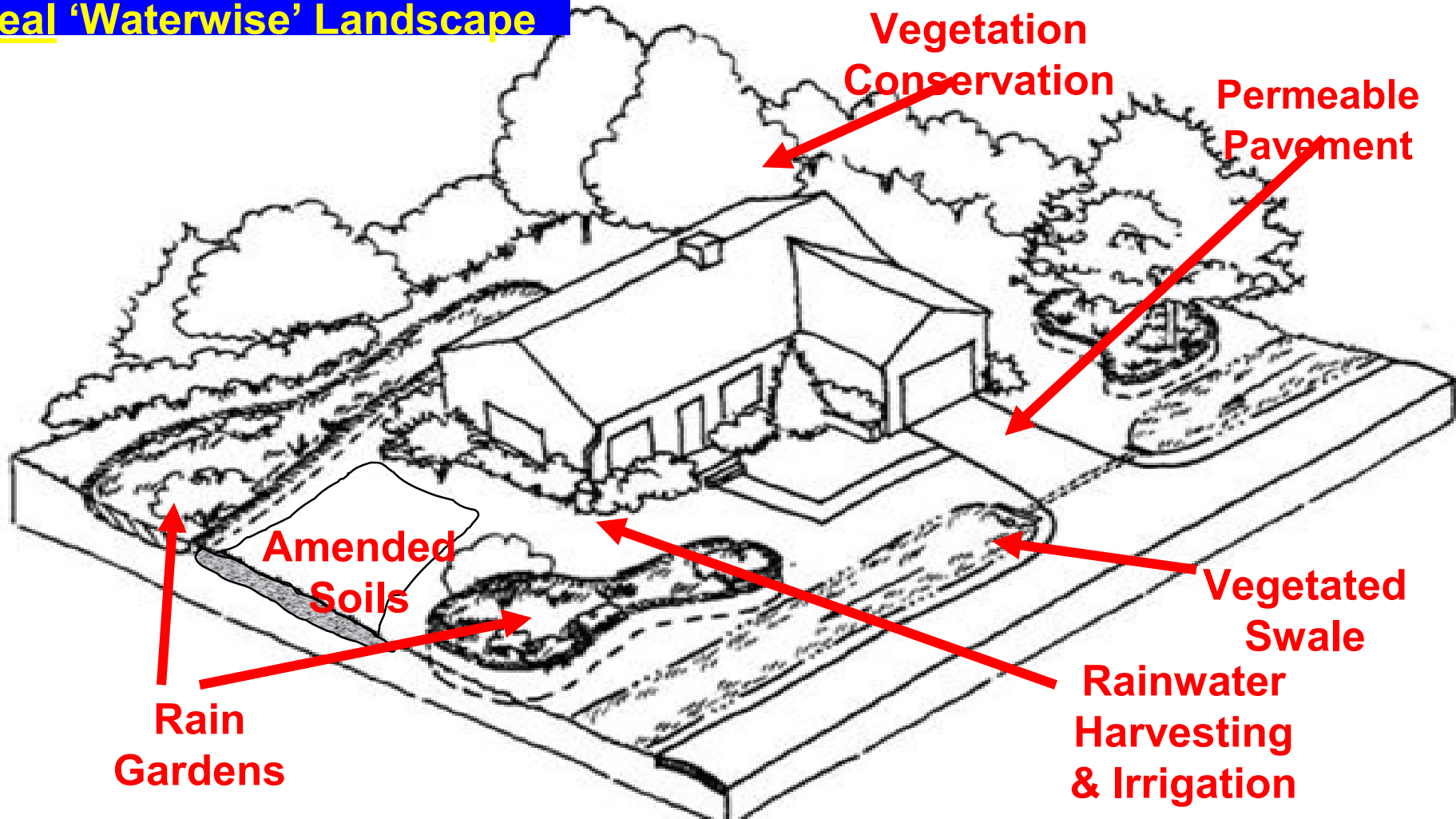


Enter Urban 'RainScaping':



Practices That **Slow** that Water Down, **Spread** it
Out, **Soak** it In!

Ideal 'Waterwise' Landscape



Educational Opportunity?



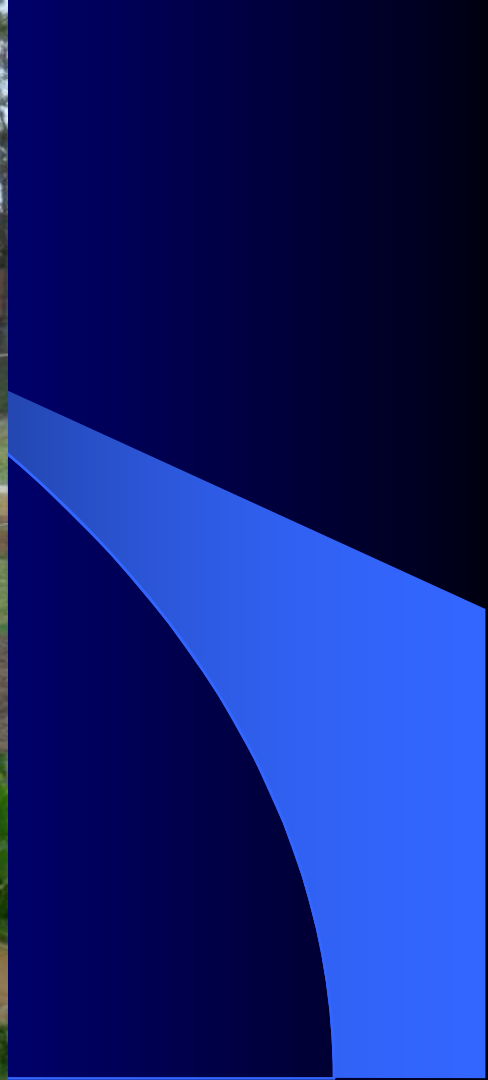
Educational Opportunity?



















From Now Until 12:00 ...



- Visit our table exhibitors in the hallway
- Tour the Spotlight Schools on display in the library
- Be sure to contribute to our Vision Wall
- Complete a 3 question evaluation about today's event. We'd love your feedback!
- Contribute to our FlipGrid Reflection:
<https://flipgrid.com/wakegreen>
- Professional Development Certificates:
Available at 12:00 at Sign-In Tables
- Tweet About Today! **#WakeGreenSchools**

Thank You!



We want to thank you for taking the time to be here today. We want to consider this the beginning of a network of environmentally - considerate educators and community partners. Please provide us with any ideas to help improve our network.