

Assessing and Addressing Litter in Durham's Waterways



Today's Agenda

1. Background on the Problem

- a. Litter in Durham's Waterways
- b. Litter in North Carolina's Waterways

2. Legal & Policy Toolbox for Local Governments: "Upstream" Solutions

- a. North Carolina's Preemption Problem
- b. City/County Procurement
- c. Voluntary Efforts

3. Legal & Policy Toolbox: "Downstream" Solutions

- a. Water Quality Standards and Total Maximum Daily Loads
- b. Including Litter Reduction Provisions in MS4 Stormwater Permits and Plans
 - i. Regulating point sources of litter as illicit discharges
 - ii. Structural Controls
 - iii. Non-structural Controls

Last Month's WOW Webinar

Characterizing Macro and Microplastic Pollution in the Neuse River Basin

J. Jack Kurki-Fox^{a,*}, Barbara A. Doll^{a,b}, Bonnie Monteleone^c, Kayla West^c, Gloria Putnam^b, Liam Kelleher^d, Stefan Krause^{d, e}, and Uwe Schneidewind^d

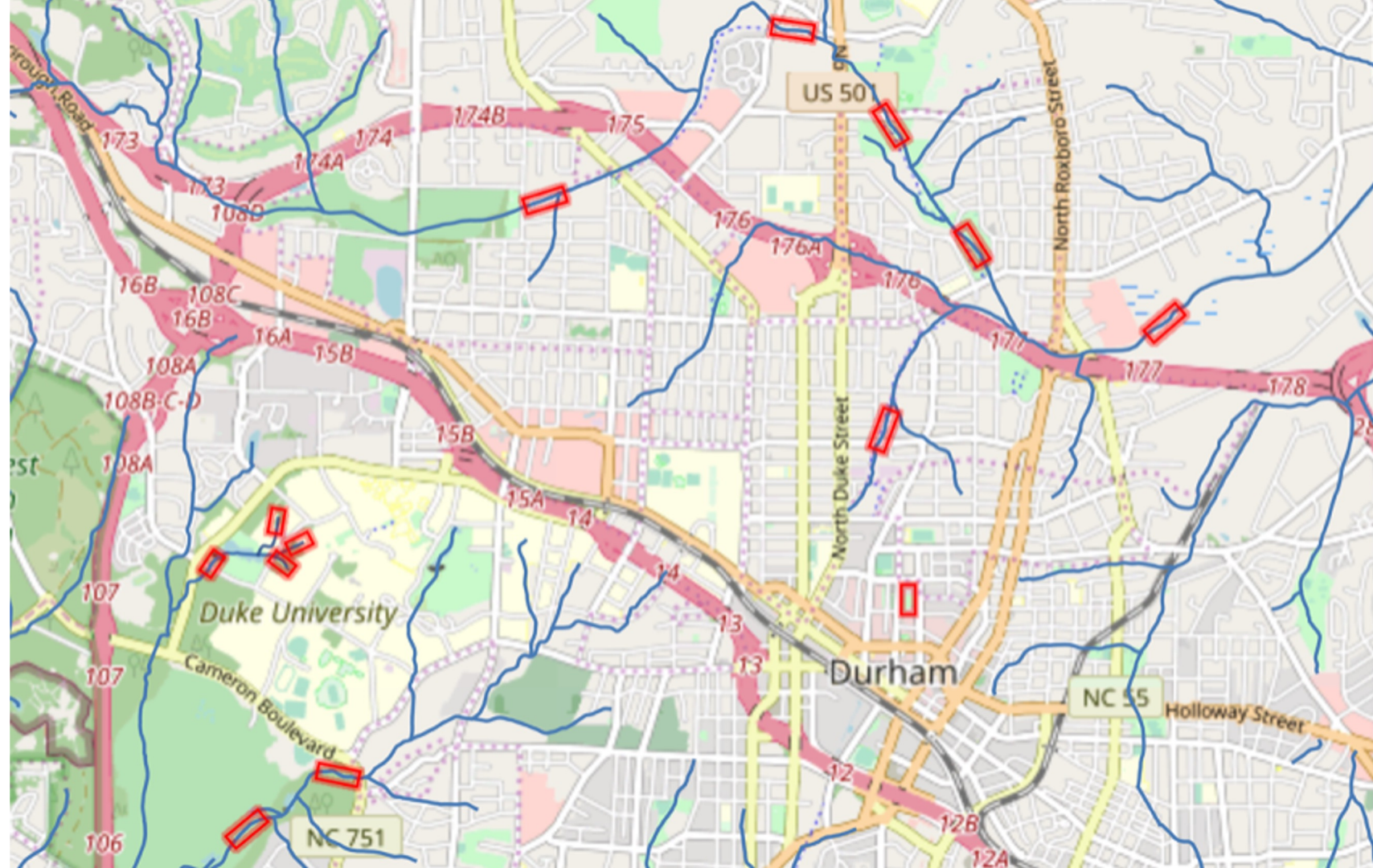
^a Biological and Agricultural Engineering, North Carolina State University,

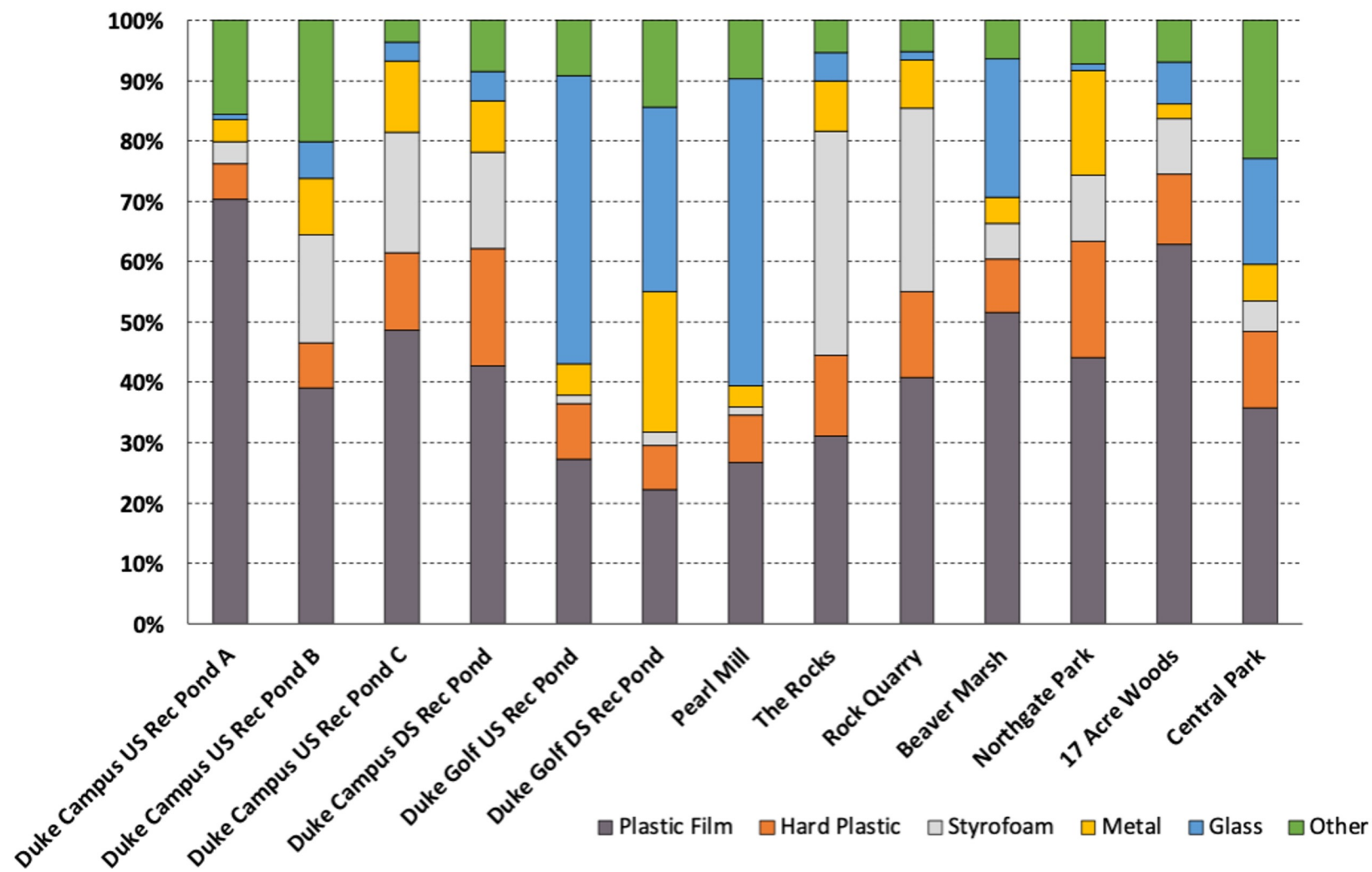
^b North Carolina Sea Grant, NC State University, Raleigh, NC, USA

^c Plastic Ocean Project, Wilmington, NC, USA

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^e LEHNA - Laboratoire d'écologie des hydrosystèmes naturels et anthropisés, University of Lyon, Villeurbanne, France.







TRASH TROUT

GreenWorks

AND MAINTAINED BY
HAW RIVER ASSEMBLY
(573) 979-1038

FILLAREE



Pre-Trash Trap



Post-Trash Trap



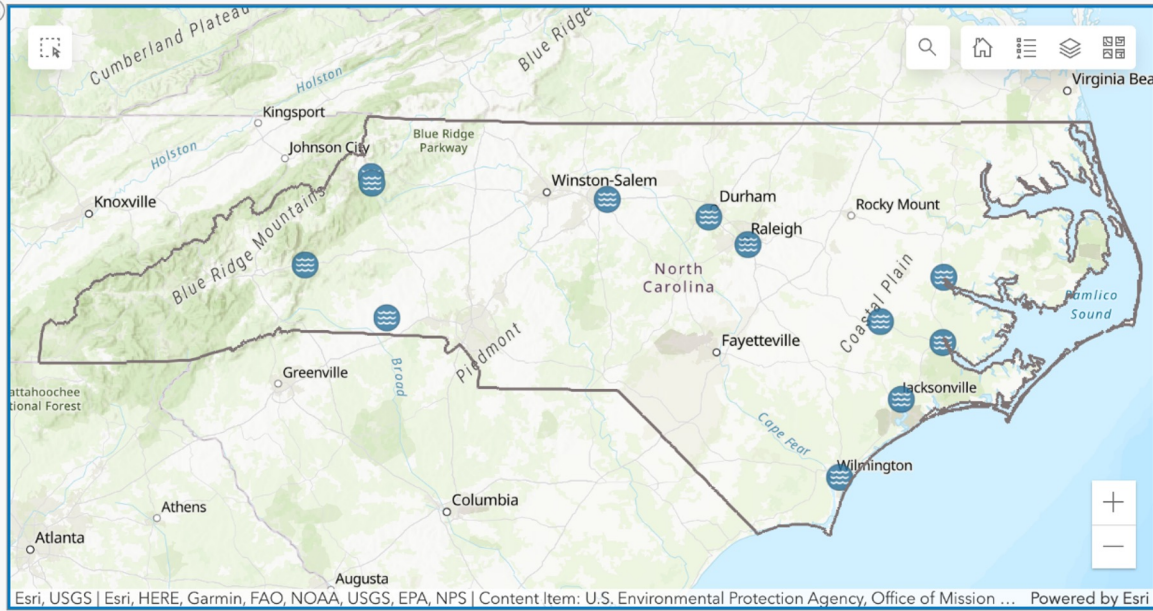
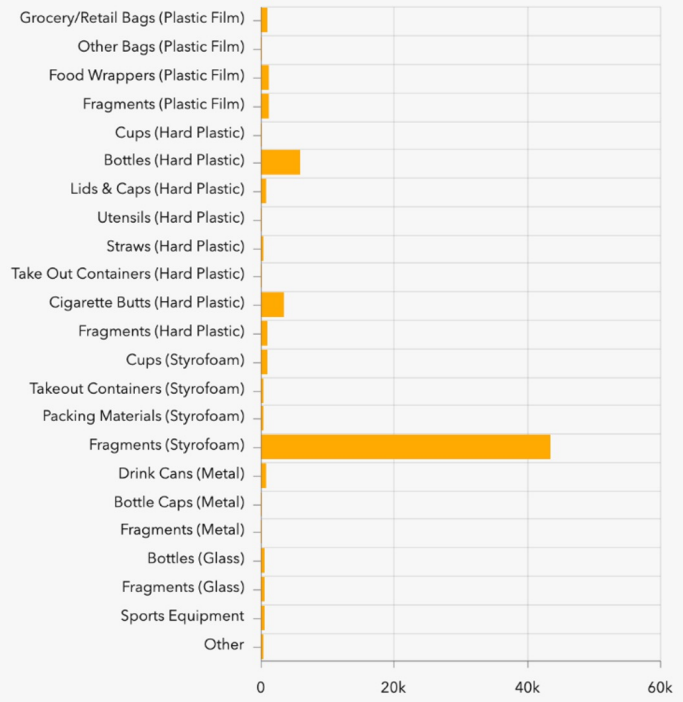
Cleaning Up the Creeks

The State of Trash in North Carolina's Streams

1. Select a stream:
All Streams

2. Select a survey date:
All Surveys

Item Count



Litter Count (Bar Chart)

Litter Count (Pie Chart)

Land Cover

144

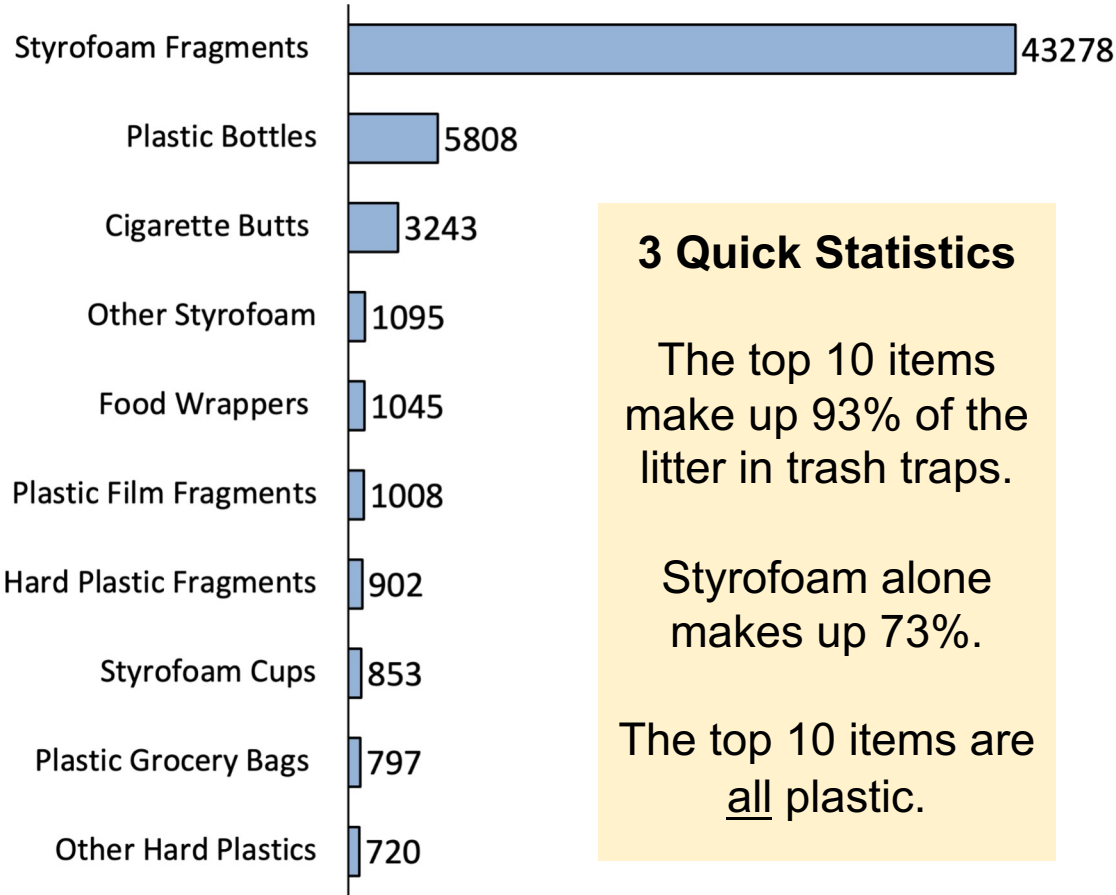
Surveys

62.4k

Litter Items Collected



<https://tinyurl.com/bdfe92xf>



3 Quick Statistics

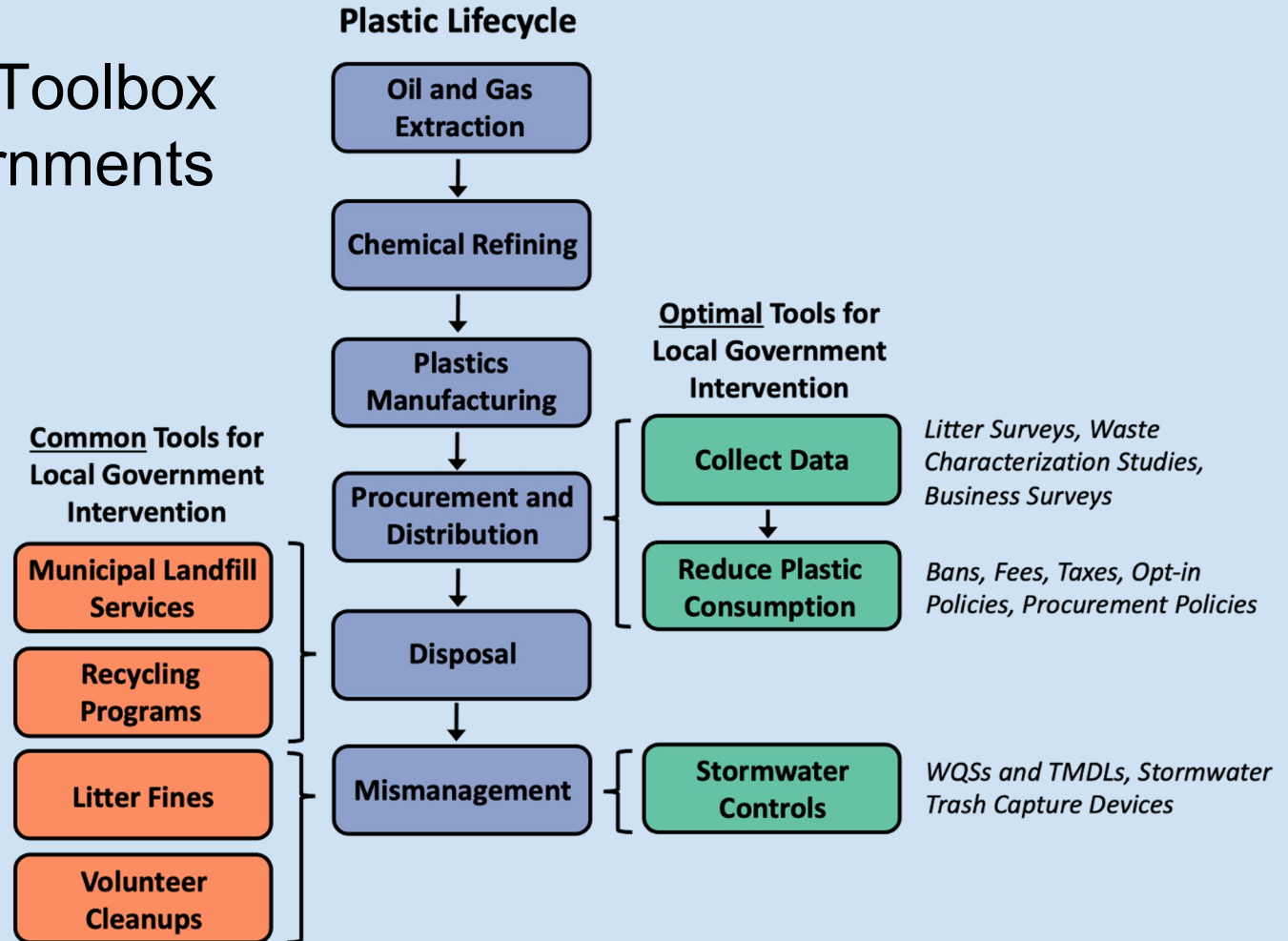
The top 10 items make up 93% of the litter in trash traps.

Styrofoam alone makes up 73%.

The top 10 items are all plastic.



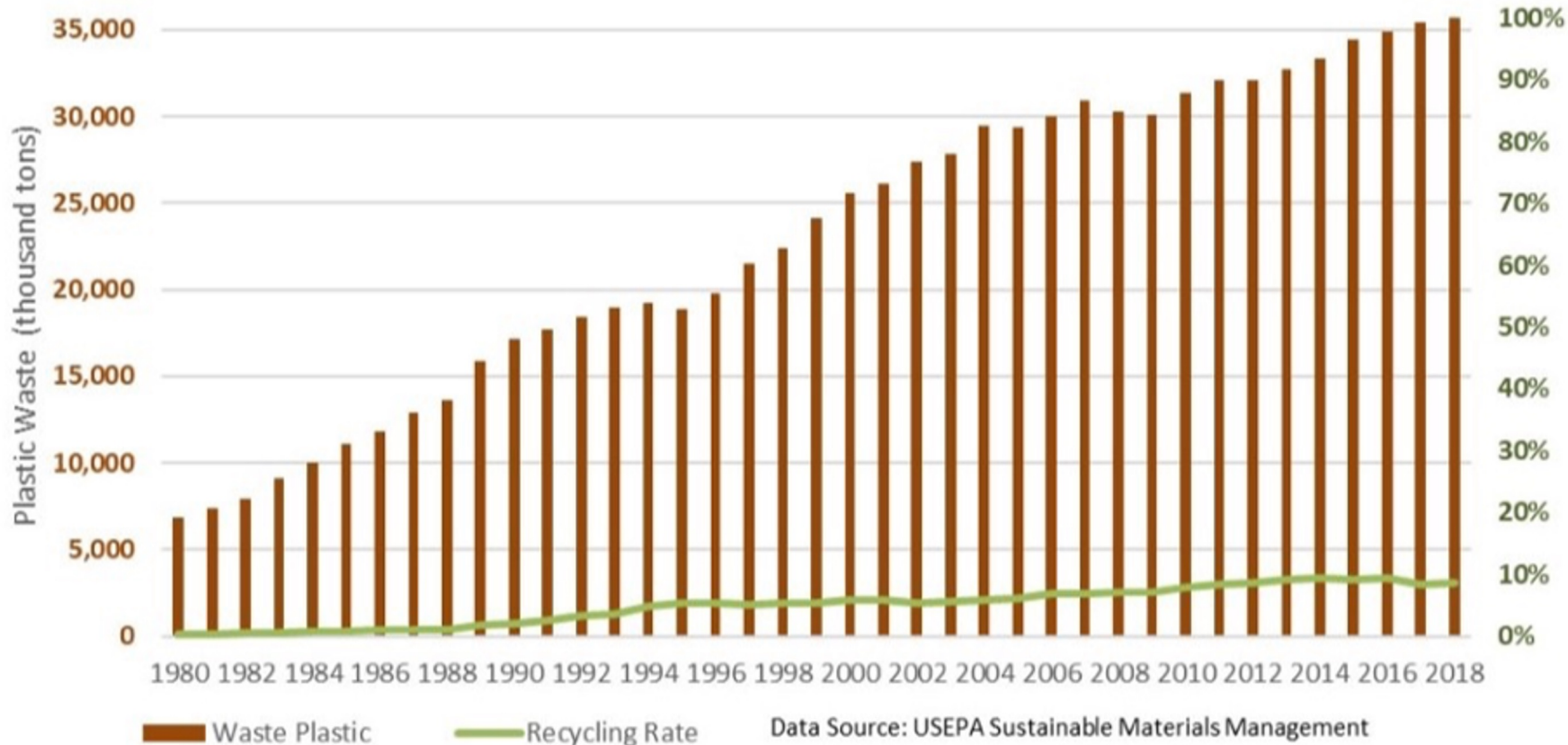
Legal & Policy Toolbox for Local Governments



Reduction at the Source



U.S. Post-Consumer Plastic Waste vs. Recycling Rate



The North Carolina Solid Waste Management Act

NC Solid Waste Management Act of 1989: N.C.G.S.

§130A-309.04: policy and goals

(a) “It is the policy of the State to promote methods of solid waste management that are alternatives to disposal in landfills and to assist units of local government with solid waste management. In furtherance of this State policy, there is established a hierarchy of methods of managing solid waste, in descending order of preference:

- (1) Waste reduction at the source;
- (2) Recycling and reuse;
- (3) Composting;
- (4) Incineration with energy recovery;
- (5) Incineration without energy recovery;
- (6) Disposal in landfills.”

130A-309.09A. Local government solid waste responsibilities

(a) Each unit of local government shall implement programs and take other actions that it determines are necessary to address deficiencies in service or capacity required to meet local needs and to protect human health and the environment. ...”

The North Carolina Solid Waste Management Act

§ 130A-309.10. Prohibited acts relating to packaging; coded labeling of plastic containers required; disposal of certain solid wastes in landfills or by incineration prohibited.

(c) (1) No plastic bag shall be provided at any retail outlet to any retail customer to use for the purpose of carrying items purchased by that customer unless the bag is composed of material that is recyclable.

(2) It is the goal of the State that at least twenty-five percent (25%) of the plastic bags provided at retail outlets in the State to retail customers for carrying items purchased by the customer be recycled.

(d) (1) No person shall distribute, sell, or offer for sale in this State any polystyrene foam product that is to be used in conjunction with food for human consumption unless the product is composed of material that is recyclable.

Durham's Plastic Reduction Proposal

1. **Bag Fee:** Businesses must charge customers at least \$0.10 for each disposable bag (paper and plastic) at the point-of-sale.
2. **Ban on Polystyrene:** Businesses may not provide foodware made of polystyrene (commonly known by the brand name "Styrofoam").
3. **Ban on Plasticware for Dine-In:** Restaurants may not provide disposable plasticware to customers dining on the premises.
4. **Opt-in Requirement:** Restaurants may not provide customers with packaged condiments or disposable plasticware for takeout orders without asking the customer first.
5. **Ban on City's Use of Single-use Plastic:** The City of Durham should reduce the use of single-use plastic in its own operations to the maximum extent practical.

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ENVIRONMENTAL HEALTH

State budget provision stymies local plastic reduction efforts in North Carolina

Several municipalities were on the cusp of regulating items such as plastic bags and styrofoam carryout containers. But one page in the budget undid a decade of work.



by **Will Atwater**

September 26, 2023

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**GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2023**

H

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**HOUSE BILL 259
Committee Substitute Favorable 4/3/23
Third Edition Engrossed 4/6/23
Senate Appropriations/Base Budget Committee Substitute Adopted with unengrossed
amendments 5/16/23
Senate Finance Committee Favorable with unengrossed amendments 5/16/23
Senate Pensions and Retirement and Aging Committee Substitute Adopted 5/16/23
Fifth Edition Engrossed 5/18/23
Proposed Conference Committee Substitute H259-PCCS50044-MHxr-6**

Short Title: 2023 Appropriations Act.

(Public)

Sponsors:


Referred to:

March 6, 2023

1 A BILL TO BE ENTITLED
2 AN ACT TO MAKE BASE BUDGET APPROPRIATIONS FOR CURRENT OPERATIONS
3 OF STATE AGENCIES, DEPARTMENTS, AND INSTITUTIONS.
4 The General Assembly of North Carolina enacts:
5

6 **"§ 160A-205.6. Limitations on regulations of auxiliary containers; shopping carts.**

7 (a) Except as provided under subsection (b) of this section, no city may adopt an
8 ordinance, resolution, regulation, or rule to:

9 (1) Restrict, tax, charge a fee, prohibit, or otherwise regulate the use, disposition, 
10 or sale of an auxiliary container.


11 (2) Regulate the use of shopping carts, including the imposition of a fee or fine
12 on a business for failure to take possession of a shopping cart that was
13 removed from the premises of the business.

14 (b) A city is authorized to:

15 (1) Operate a recycling program, a composting program, and a solid waste
16 disposal program as authorized by law.

17 (2) Regulate the use of auxiliary containers on property owned or maintained by
18 the city.

19 (c) The following definitions shall apply in this section:

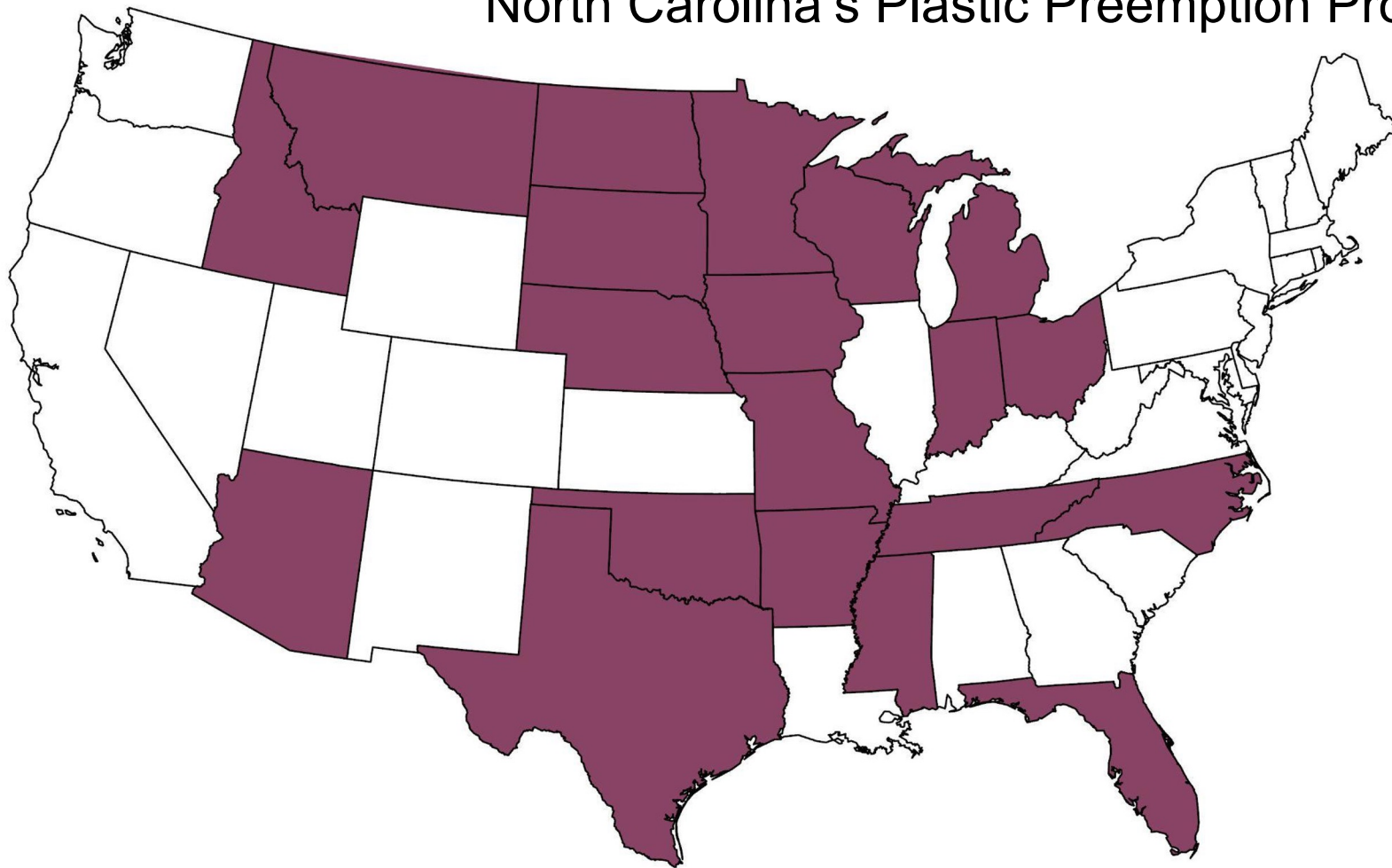
20 (1) Auxiliary container. – A bag, cup, package, container, bottle, device, or other 
21 packaging made of cloth, paper, plastic, foamed plastic, fiber, expanded
22 plastic, cardboard, corrugated material, aluminum, glass, post-consumer
23 recycled material, or similar coated or laminated material that is designed for
24 the consumption, transportation, or protection of merchandise, food, or
25 beverage at a food service facility, manufacturing facility, distribution facility,
26 processing facility, or retail facility.

27 (2) Shopping cart. – As defined in G.S. 14-72.3(a)(1)."

28 **SECTION 5.9.(f)** G.S. 130A-290(a)(35) is amended by adding a new
29 sub-subdivision to read:

30 "h. An auxiliary container, as defined in G.S. 153A-145.11(c)(1) or
31 G.S. 160A-205.6(c)(1)."
32

North Carolina's Plastic Preemption Problem



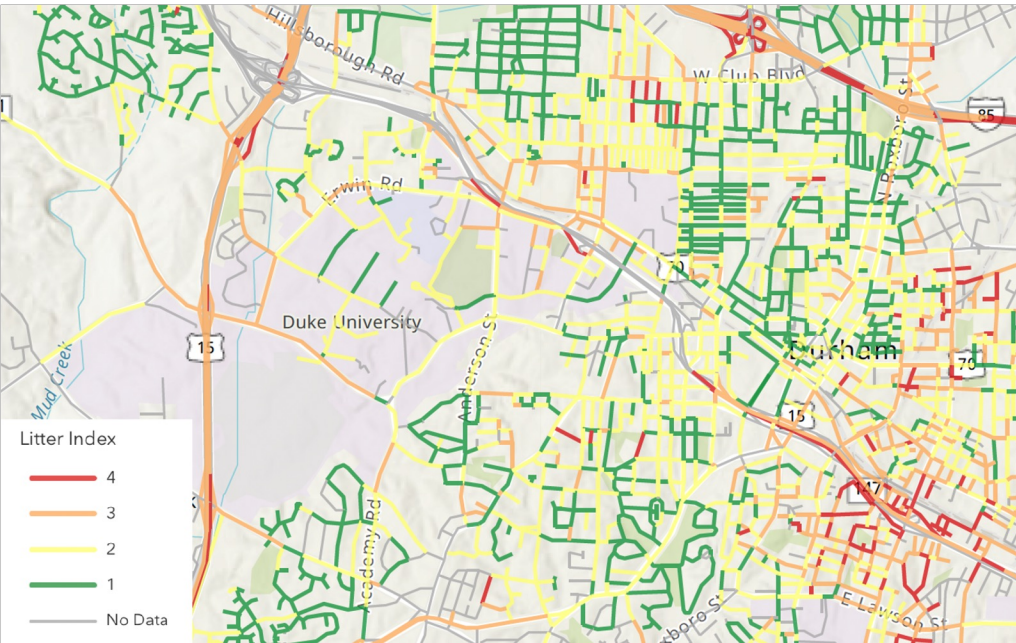
“Upstream” Solutions Still Available to NC Municipalities

- City and County Procurement
- Investment in Re-use Infrastructure
- Education and Outreach Campaigns
- Voluntary Efforts: Certifications, Incentives

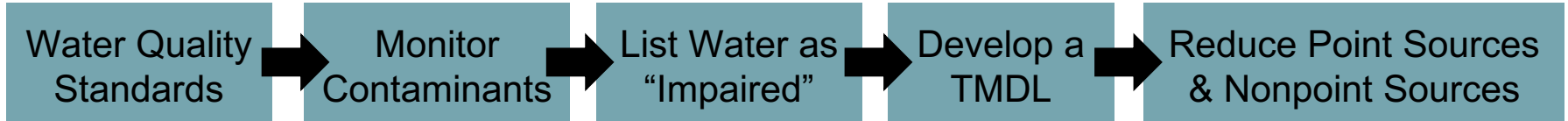


“Downstream” Solutions under the Clean Water Act

“Restore and maintain the chemical, physical, and biological integrity of the Nation’s waters”



WQS, 303(d) Listing, and TMDLs (State Government)



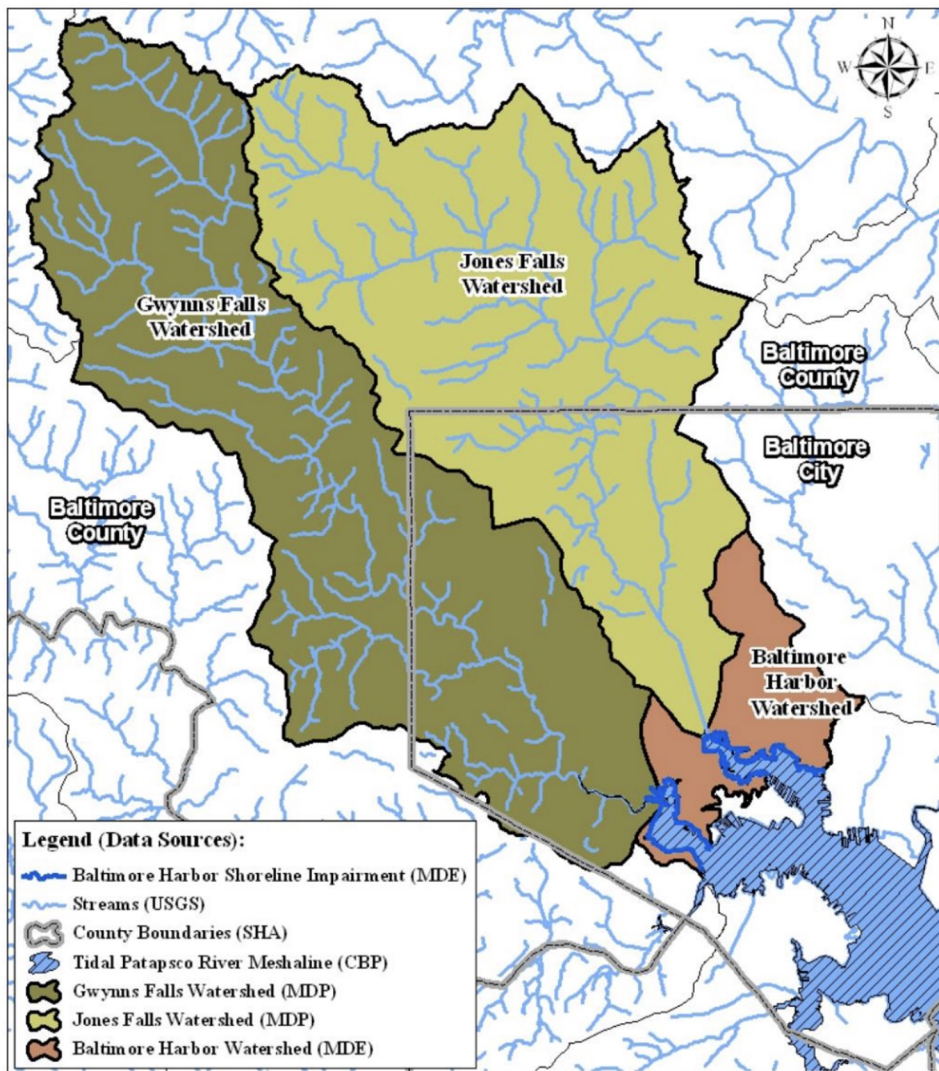
- **Waters Impaired for Trash:** More than 200 water bodies in 7 states/territories (AK, CA, CT, DC, HI, MD, and NY)
- **TMDLs for Trash:** Established in 4 states/territories (AK, CA, MD, DC)
- **NC's WQS for floating solids, settleable solids, or sludge for Class C waters:** "only such amounts attributable to sewage, industrial wastes, or other wastes as shall not make the water unsafe or unsuitable for aquatic life and wildlife or impair the waters for any designated uses." (15A NCAC 02B .0211(8))

TMDL Case Study: Baltimore Harbor



Watershed	Annual TMDL (lb / yr removed)
Baltimore Harbor	45,012.9
Gwynns Falls	98,195.3
Jones Falls	85,162.4
Total City	228,370.6

Watershed	Annual TMDL (lb / yr removed)
Gwynns Falls	76473.2
Jones Falls	47669.4
Total County	124,142.6



Leveraging NPDES Permits and Stormwater Management Plans

(Even *without* a TMDL)

- Education and outreach through non-structural control BMPs
- Conduct a Special Study
- Treat litter as an “illicit discharge” and implement civil penalties and administrative remedies
- Structural controls to intercept and remove litter from stormwater and surface water



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Implementing Structural Stormwater Controls for Trash



Learn More:

<https://www.epa.gov/trash-free-waters>

Total Maximum Daily Loads of Trash and Debris for the
Middle Branch and Northwest Branch Portions of the Patapsco River
Mesohaline Tidal Chesapeake Bay Segment,
Baltimore City and County, Maryland

FINAL



DEPARTMENT OF THE ENVIRONMENT
1800 Washington Boulevard, Suite 540
Baltimore, MD 21230-1718

Submitted to:

U.S. Environmental Protection Agency, Region 3
Water Protection Division
1650 Arch Street
Philadelphia, PA 19103-2029

December 2014

EPA Submittal Date: September 2, 2014
EPA Approval Date: January 5, 2015

Document version: December 3, 2014

TRASH STORMWATER PERMIT COMPENDIUM



A compendium of excerpted permit language from municipal separate storm
sewer system (MS4) permits and other resources that can be used and/or
tailored for trash-specific MS4 permits.



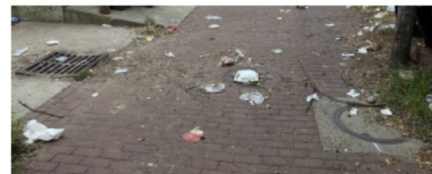
Office of Wetlands, Oceans and Watersheds
Office of Wastewater Management
April 2021
EPA-841-R-21-001



EPA-841-B-21-003
April 2021

U.S. EPA Escaped Trash Assessment Protocol (ETAP)

Reference Manual





Thank you!

Duke
UNIVERSITY

ENVIRONMENTAL
LAW *and* POLICY CLINIC

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