



TOWN OF WAYNESVILLE STORMWATER PROGRAM

Overview of the NPDES Permit

Olga Grooman, Assistant Development
Services Director

November 12, 2024

Waynesville NPDES Permit

- Current Permit issued on August 19, 2021.
- Valid for 5 years.
- We are in the FY 4 of the permit.
- Stormwater permit renewal application will be submitted in 2026. Needs to be submitted at least 180 days prior to permit expiration.

Goals:

- Allow the Town to discharge stormwater from their municipal separate storm sewer system.
- Protect water quality.
- Reduce the discharge of pollutants in stormwater runoff to the maximum extent practicable.
- Educate and engage the public.



NPDES Permit Requirements

The program is implemented via the goals of the Stormwater Management Plan (SWMP) that addresses **six Minimum Control Measures**:

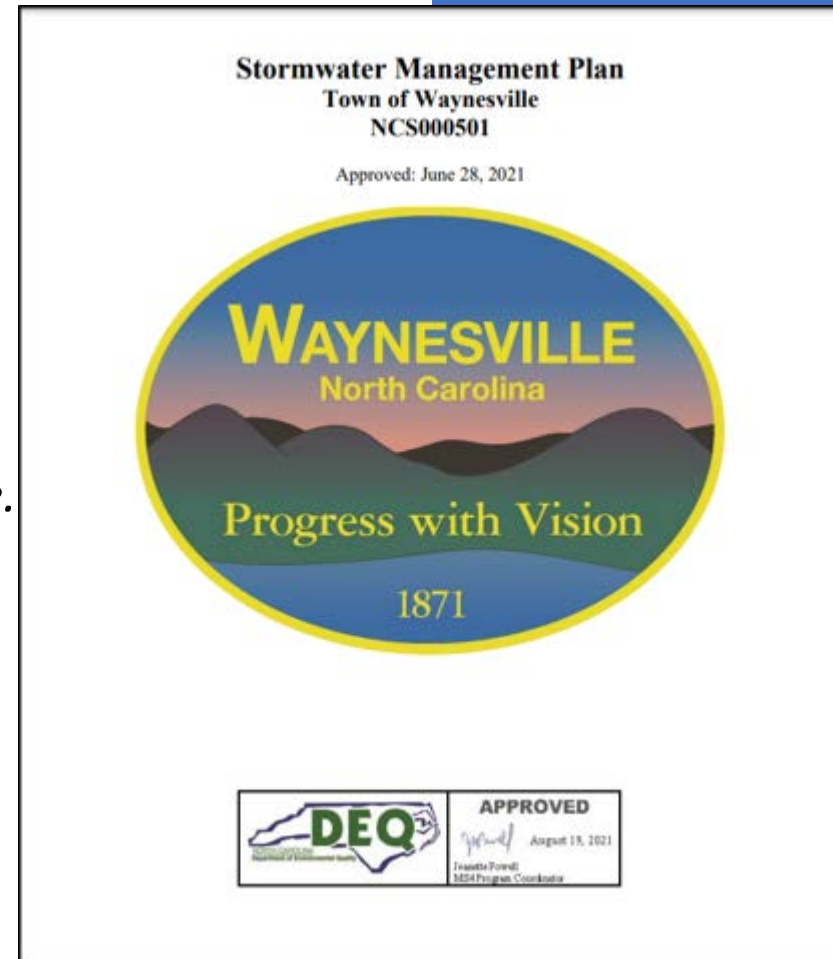
1. Public Education and Outreach

2. Public Participation and Involvement

Action items include public presentations, educational postcards, library exhibits, storm drain stenciling, Adopt-A-Stream program, stream cleanups, press releases, social media articles, and Stormwater Web Page.

3. Illicit Discharge Detection and Elimination (IDDE)

Outfall inspections, mapping, IDDE Plan, annual evaluation of the plan, database tracking system, staff training.



NPDES Permit Requirements

4. Construction Site Runoff Controls

Construction site waste disposal, erosion and sedimentation, inspection of construction sites, tracking and reporting.

5. Post-Construction Runoff Control Program

Tracking and reporting of low-density and high-density plan reviews, annual SCM inspections, O&M Reviews, monitoring and verifying recordation of deed restrictions and protective covenants, inventory of projects, inspection and enforcement, pet waste management, hot spots sampling, smoke testing, identify and perform sewer system maintenance and repairs.

Instrument# 2024000337 Book 1101 Page 175

PENDING REVIEW FOR TAX LISTING

DATE 1-12-24 BY DW



2024000337

HAYWOOD CO, NC FEE \$51.00
NON-STANDARD DOC FEE

PRESENTED & RECORDED
01-12-2024 01:24:59 PM

SHERRI C. ROGERS
REGISTER OF DEEDS
BY: STACY C. MOORE
ASSISTANT

BK: RB 1101

PG: 175-178

Permit Number: HAYWO-2021-002
(to be provided by DWQ)

Proprietary Devices (StormFilter) Operation and Maintenance Agreement

I will keep a maintenance record on this BMP. This maintenance record will be kept in a log in a known set location. Any deficient BMP elements noted in the inspection will be corrected, repaired or replaced immediately. These deficiencies can affect the integrity of structures, safety of the public, and the removal efficiency of the BMP.

Important maintenance procedures:

- The drainage area will be carefully managed to reduce the sediment load.

NPDES Permit Requirements

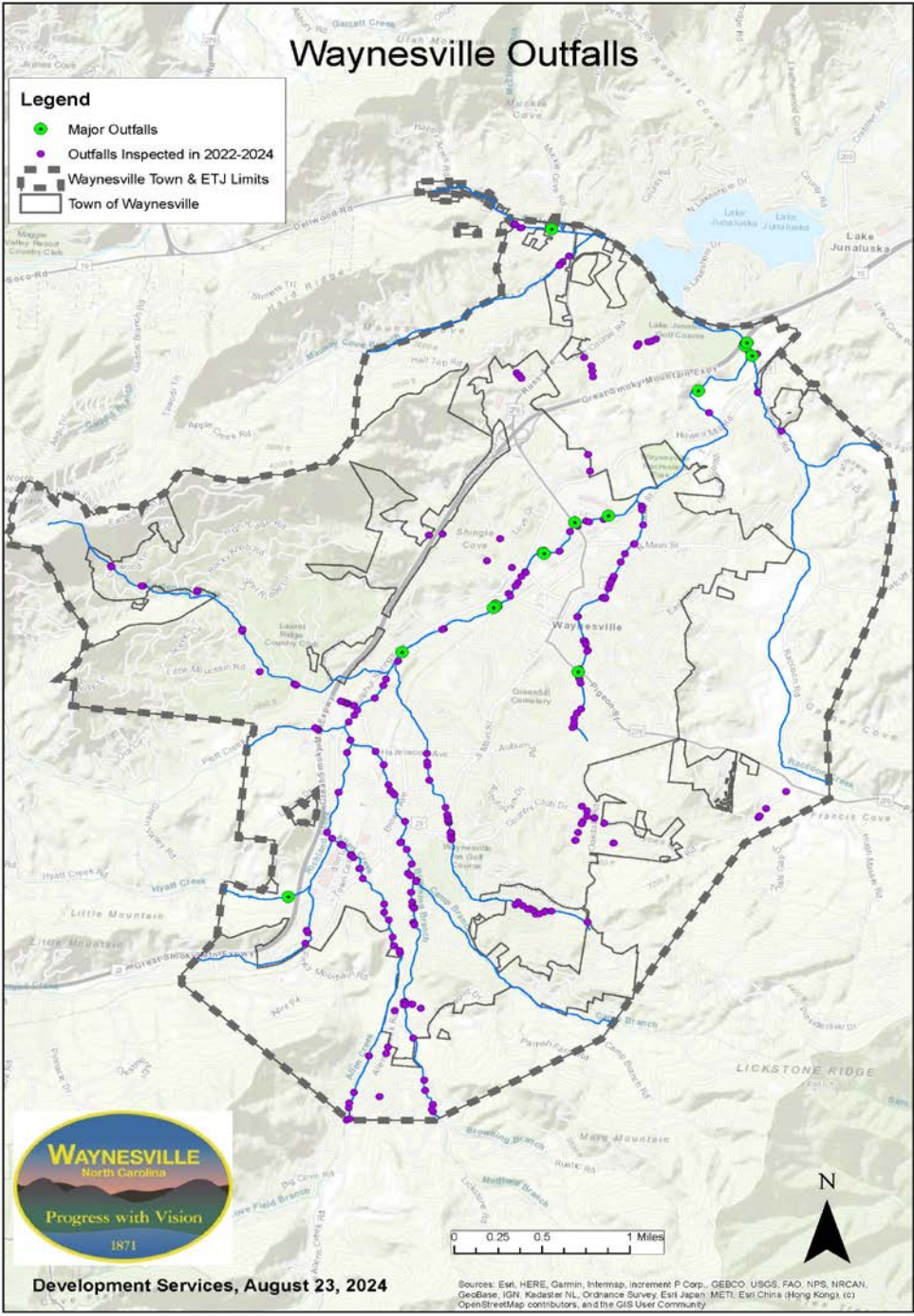
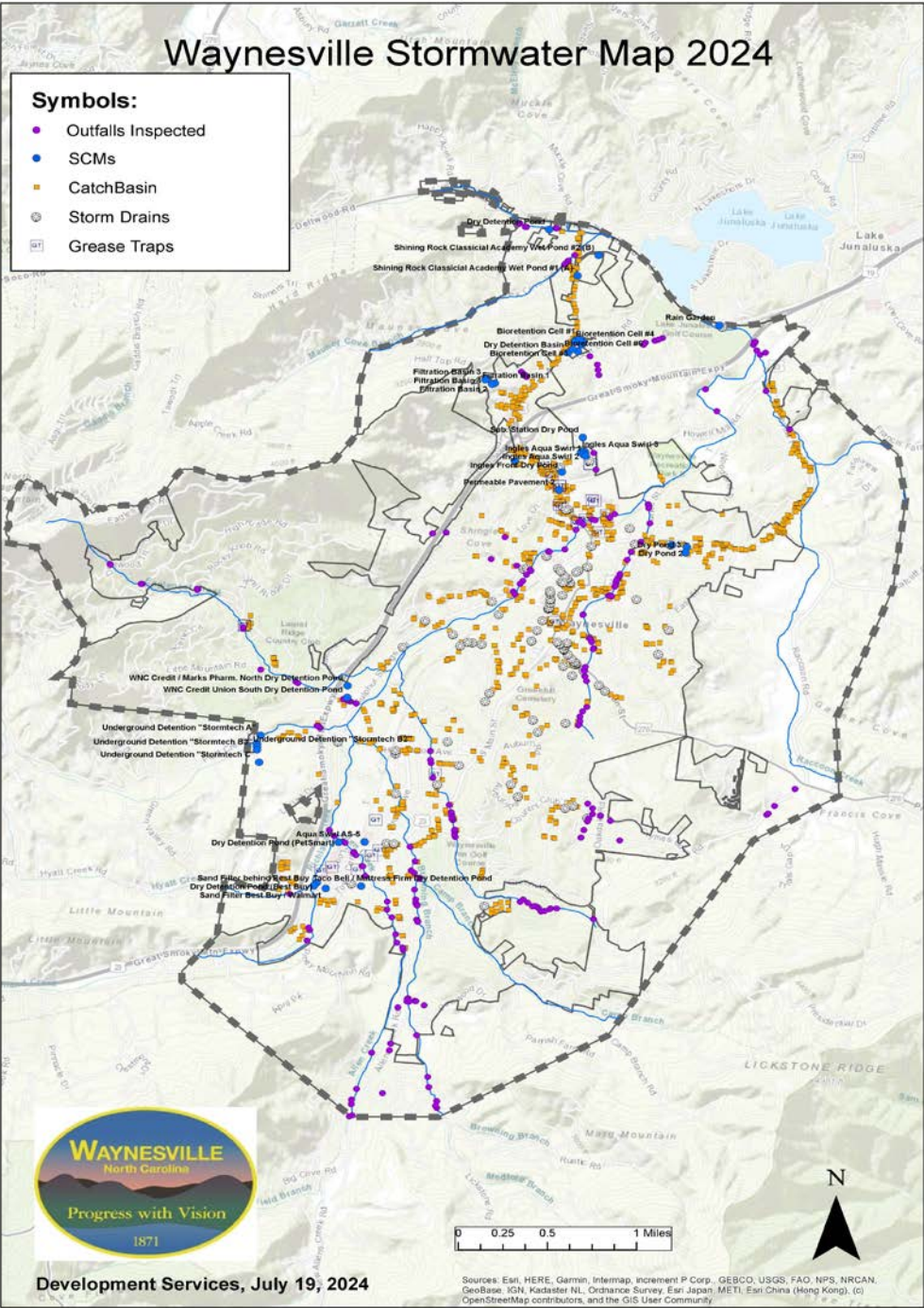
6. Pollution Prevention/ Good Housekeeping

Inspection of Town's facilities, good housekeeping practices, inventory of facilities, spill response procedures, staff training, logging and reporting, MS4 SOPs, municipal SCM inspections, street sweeping and leaf collection SOPs.

+ Program Administration (logging, ordinance updates, reporting, annual self assessments to the NCDEQ)



Stormwater Maps



Waynesville Stormwater Page



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Services Residents Visit

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Stormwater Management

Department Menu

[FY 24-25 Full Fee Schedule](#)

[Permits and Application Forms](#)

[Building Inspections](#)

[Code Enforcement](#)

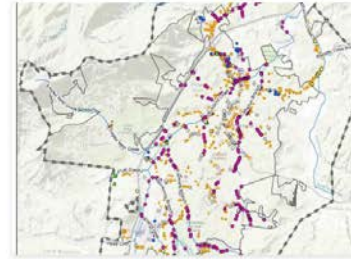
[Land Use \(Zoning\) Ordinances](#)

The Environmental Protection Agency (EPA) defines **storm** runs off streets, lawns, and other sites. When stormwater ultimately replenishes aquifers or flows into streams and r

The Town of Waynesville utilizes its [Stormwater Manager](#) and comply with the [National Pollutant Discharge Eliminat](#) applicable provisions of the [Clean Water Act](#). The Stormw Education and Outreach, Public Participation, Construction Site Runoff Controls, Post-Construction Site



Stormwater Educational Gallery



Stormwater questions or to report an [illicit discharge](#):

Monday to Friday, 8 am - 4:30 pm

Development Services: email: ogrooman@waynesvillenc.gov or call: (828) 356-1172

Haywood Waterways: email: info@haywoodwaterways.org or call: (828) 476-4667 EXT 10

Holidays and After Hours

Call: (828) 456-5363

NC Department of Environmental Quality Hotline

Call: 1-866-STOP-MUD

When calling, please be prepared to share the following information: time/date, location, and description of the issue

Please check the sections in the drop-down menu below to learn about our stormwater program.

Thermal Stress & Household Runoff

Town of Waynesville Stormwater Management Plan (SWMP)
NPDES MS4 Permit

Town Council Presentation
November 12th, 2024

Mackenzie Tenan, Project Manager
Haywood Waterways



What is Thermal Stress & Household Runoff?

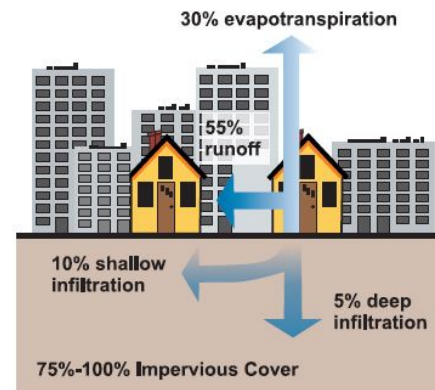
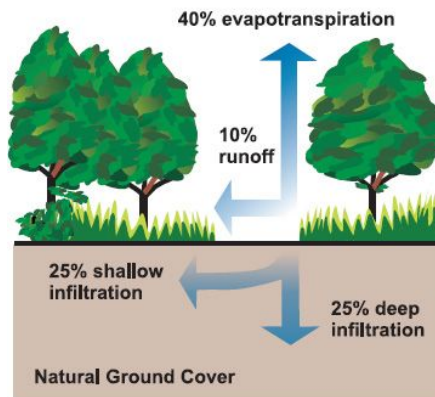
Thermal Stress is considered a **pollutant** that causes **significant and sudden temperature changes in nearby waterways**, affecting its water quality. Specifically, increased temperatures due to runoff originating from **impervious surfaces** such as:

- Parking lots
- Roadways
- Rooftops and Driveways (**Household Runoff**)

Without proper stormwater best management practices (BMPs), this runoff goes untreated.

Temperature has been cited as one of EPA's **“Pollutants of Concern”** and **“plays a fundamental role in shaping the structure and function of aquatic systems”**.

Water transfers heat more effectively than almost all common liquids!



What is significant about Thermal Stress?

It is detrimental to fish and other aquatic organisms.

It can lead to disease, reduced reproductive success, migrating pattern disruption, and death.

One organism is affected:
the entire ecosystem is affected.

EXAMPLE:

**Macroinvertebrate dies from a 5-7° F increase
in water temperature**

**Trout is hungry, but there are no
macroinvertebrates to eat**

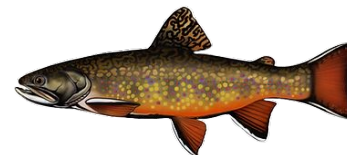
Trout dies due to lack of macroinvertebrates :(



Trout are a cool water species, meaning they prefer stream temperatures that are **below 70°F**

Site	Range (°F)	Days > 70° F
Richland (2011 - 2014)	32.0 - 80.1	175
Raccoon (2011 - 2014)	33.2 - 76.3	204
Lower Fines (2015)	32.0 - 83.5	61
Upper Fines (2015)	32.0 - 74.9	41

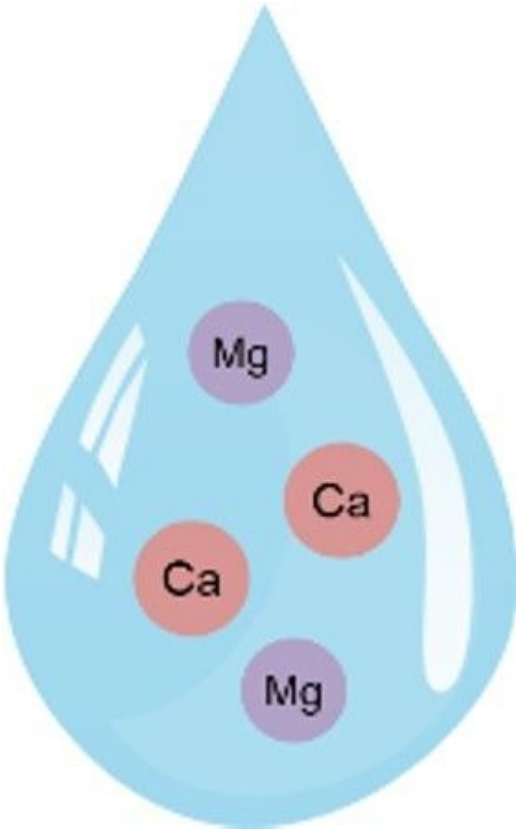
Surface temperatures can easily reach 120 - 150°F on a typical summer afternoon!



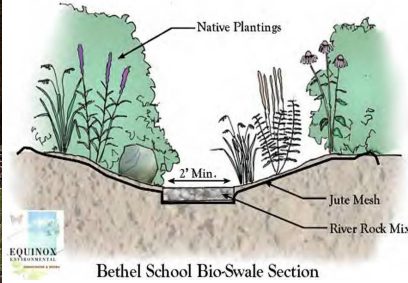
Additionally...

Water temperature affects the **chemical properties** of a stream:

- It is more readily able to dissolve minerals from surrounding rocks, leading to higher conductivity values
- It will decrease the amount of dissolved oxygen (a cold soda is bubblier than a warm soda)
- Increase in algal blooms, particularly in the summer season



What can be done to reduce and treat Thermal Stress & Household Runoff?

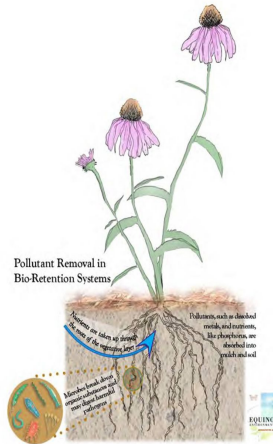


Bio-retention &
Bio-swales

Underground cisterns

Rain Barrels

Rain Gardens



Healthy riparian buffers

Plant trees

Position downspouts
efficiently



Resources

Town of Waynesville SWMP

EPA Nonpoint Source Control Branch Urban Runoff Presentation

EPA - Temperature

EPA Factsheet on Water Quality Parameters - Temperature

USGS Temperature & Water

Haywood Waterways Projects & Programs