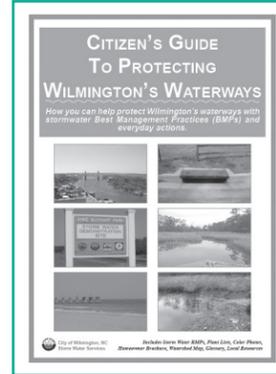


NEW WEBSITE, EASIER NAVIGATION

In case you haven't noticed, Storm Water Services has a fresh new look! The City of Wilmington unveiled a new city logo and website in May.

In particular, the new Storm Water Services webpages allow users to easily navigate to information about storm water, water quality, nonpoint source pollution, as well as providing access to the popular **Citizen's Guide** and other storm water publications. We hope you enjoy it!



Visit the new Storm Water Services website at:

www.wilmingtonnc.gov

(From the **City Department** drop down menu on the right, choose **Public Services**, then **Storm Water Services**)

PUBLIC SERVICES
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Director

STORM WATER SERVICES
343-4777
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Manager

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STORM WATER MAINTENANCE
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Greenfield Lake Update



Greenfield Lake is a 110-acre, man-made lake that was constructed in 1750 as a plantation millpond. At present, the lake receives storm water runoff from the densely populated, highly impervious, 2,500-acre Greenfield Lake Watershed. Nutrient-rich runoff flowing into the lake has led to excessive aquatic weed and algae growth and has resulted in the NC Division of Water Quality listing the lake as an "impaired waterbody". Sources of polluted runoff into the lake can be attributed to waste from pets and wildlife, fertilizers, sediment accumulation, and the decomposition of yard waste such as leaves and grass clippings. This poor water quality has resulted in fish kills, intense algae blooms, and excessive aquatic vegetation.

Storm Water Services has dedicated yearly budget funding to address and manage the conditions affecting Greenfield Lake. Budget funding supports *physical management strategies* and *public outreach/education efforts*.

Physical Management Strategies

Storm Water Services has contracted with Foster Lake & Pond Management (FLPM) to address nuisance vegetation in Greenfield Lake. FLPM is currently enlisting biological, chemical, and mechanical management strategies to manage nuisance aquatic vegetation and improve the water quality of Greenfield Lake. These methods are outlined below:

- 1. Introduction of Sterile Grass Carp – January 2005**
1,000 sterile grass carp will be introduced into the lake with supplemental stocking of 300 fish each year for the next 3 years.
- 2. Water Circulation/Aeration – February 2005**
Aeration systems were installed in the lake to help increase water circulation and aeration.
- 3. Application of Sonar Herbicide – April/May 2005**
The water level in Greenfield Lake was drawn down in order to apply Sonar, a selective herbicide, which specifically targets nuisance vegetation and is effective at very low, very safe concentrations.
- 4. Encourage Desirable Emergent Shoreline Plants/ Treat Nuisance Species – August 2005**
Selective mechanical or chemical controls, such as hand harvesting or spot herbicide applications, will be employed to remove filamentous algae and invasive plant species in high impact areas.



Grass Carp Release



SolarBee Aerator

Public Outreach and Education Efforts

City outreach efforts to make residents and businesses aware and accountable in the Greenfield Lake Watershed were augmented by Coastal Nonpoint Source Program grant funding. This grant funding supported efforts to implement outreach recommendations intended to raise citizen awareness and involve the public in addressing nonpoint source pollution issues and the current condition of Greenfield Lake. The outreach recommendations were a result of the Greenfield Lake Stakeholders Initiative that formed in October 2001, which identified three main water quality issues affecting the lake: pet waste, lawn care, and illicit discharge.

Storm Water Watch Newsletter

Summer 2005 ~ Watershed Issue

Storm Water Services

Storm Water Services maintains and improves the public drainage system for the protection of our community and the environment.

Don't forget NC Big Sweep! Volunteer to clean up our watersheds and make a difference on Saturday, October 1st. Call 343-4340 for more information!

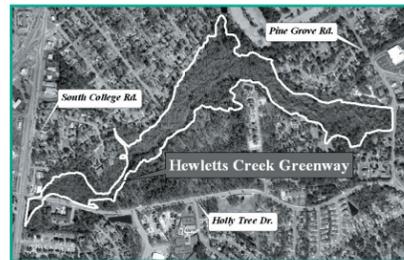
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Project Update: Hewletts Creek Watershed

Bethel Road Water Quality Project (formerly known as the “Dobo Property”)

This project will construct a storm water wetland on a 17-acre tract of land purchased by the New Hanover Tidal Creeks program. There are two major drainage outfalls bordering this property which will be diverted into the wetland to remove pollutants before being discharged back into the drainage system. This effort will provide treatment to approximately 10% of the Hewletts Creek watershed. The wetland facility is currently in the design and permitting phase of the project. Funding in the amount of 2.5 million dollars is being provided by a Clean Water Management Trust Fund grant. Future plans for the site include a passive park, which is currently in the conceptual stage. Funding for the park has not yet been allocated. Hewletts Creek is classified as a shellfishing resource, but the majority of the creek is currently closed to shellfishing due to pollution.



Hewletts Creek Greenway

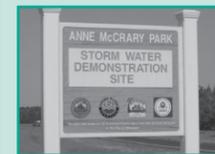
The New Hanover Soil & Water Conservation District has been leading the effort to secure land conservation easements on a 55-acre stretch of undeveloped land along the middle branch of Hewletts Creek. To date, over 24 acres have been preserved and efforts are still underway to work with the remaining landowners along the Greenway.

The Greenway is characterized by a distinct flood plain, steep side slopes, bottom wetlands, and wooded uplands. This area biologically treats upland runoff flowing into it and is crucial to the protection and improvement of Hewletts Creek. The entire greenway area consists of portions of 47 privately-owned parcels and ranges in width from 35 to 500 feet. Participants have been eligible to receive significant tax benefits, but more importantly, they have recognized their role in preserving and protecting Hewletts Creek for generations to come. For more information, contact the New Hanover Soil & Water Conservation District, 798-6032.

Project Update: Burnt Mill Creek Watershed

Mineral Springs Branch

Several improvement projects are slated to occur in the Mineral Springs Branch section of Burnt Mill Creek. These projects include: replacement of a sewer outfall by the City’s Public Utilities Department, storm water improvements to the drainage system feeding into Mineral Springs Branch near the intersection of Wrightsville Avenue and Dawson Street, and a stream restoration/storm water retrofit project funded in part by the NC Ecological Enhancement Program.



Burnt Mill Creek Outreach & Demonstration Project (EPA 319 Grant)

This 3-year, Environmental Protection Agency funded project, wrapped up in May 2005. The goal of the project was to increase awareness about watershed issues and to encourage residents and businesses in a target audience to adopt watershed friendly practices, including Best Management Practices (BMPs). A Storm Water Demonstration Site was installed in Anne McCrary Park and includes examples of storm water BMPs, native plants, and educational signage.

Restoring Burnt Mill Creek - New 319 Grant Project

The Burnt Mill Creek Watershed will be the subject of additional restoration and education efforts with new EPA 319 grant funding. This grant project is being administered by Watershed Education for Communities and Officials (WECO) at NC State. The goal is to design and construct low-impact storm water BMPs, monitor changes in water quality, and involve the public in community outreach and education efforts. The project is currently seeking suitable sites for installing low-impact storm water BMPs. For more information, contact Christy Perrin, (919) 515-4542.



Howe Creek Watershed: Water Quality Profile

Size of Watershed: 2,990 acres

History: About a third of the Howe Creek Watershed consisted of freshwater wetlands in 1984. The creek was deemed an Outstanding Resource Water (ORW) for its exceptional water quality. Since then, 95 acres of wetlands have been drained in this watershed.

Creek status: Howe Creek was closed to shellfishing and listed on the State’s 303(d) list of impaired waters in 1993. According to UNCW water quality monitoring data, the lower portion of Howe Creek maintains good water quality, while the upper creek has problems with low dissolved oxygen, algal blooms, and fecal coliform bacteria. Fecal coliform bacteria levels in the upper creek have actually doubled since last year.

Wildlife inhabitants: Deer, turtles, racoons, possums, foxes, great blue herons, egrets, ducks, geese and other waterfowl, oysters, worms, clams, macroinvertebrates, etc.

Surrounding land uses: Urban watershed, significant impervious surface coverage, commercial businesses such as large shopping centers, parking lots, a golf course, multi-family residential apartment complexes, single family residential homes, and major roadways. Examples include Mayfaire Town Center, Landfall, and portions of Market Street, Military Cutoff, and Middle Sound Loop Road.

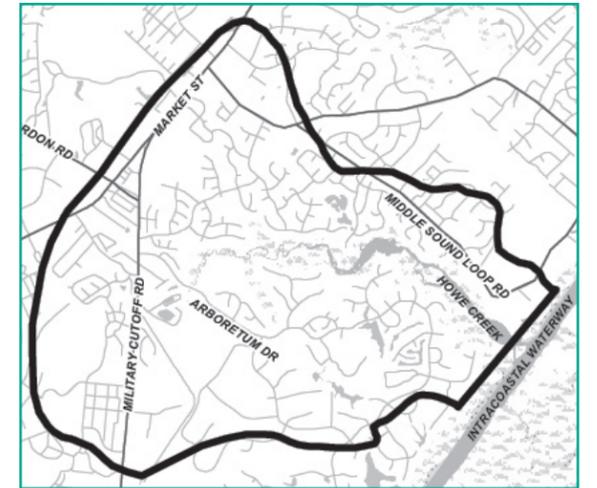
Sources of pollution impacting Howe Creek:

- ◆ Sediment from construction and land-disturbing activities
- ◆ Bacteria from pet/animal waste
- ◆ Fertilizers and pesticides
- ◆ Improper disposal of yard debris
- ◆ Litter and trash
- ◆ Car washing detergents and dirt/grime

Water quality impacts on Howe Creek:

Low dissolved oxygen levels, high fecal coliform counts, high nutrient levels, algal blooms, and oyster and clam bed closures.

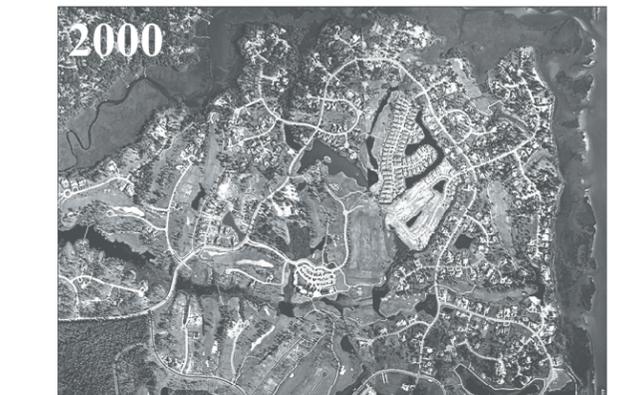
YOU are the Solution to Storm Water Pollution!
 It will take immense effort and care to improve the water quality in Howe Creek. Citizens, businesses, and community leaders must work together to achieve this common goal. For more information on every day tips and Best Management Practices for your home and yard, please visit our website:
www.wilmingtonnc.gov



A watershed is an area of land that drains runoff into a body of water such as a lake, stream, or river. On the map, the land area within the dark border is the **Howe Creek Watershed**. This entire land area sheds runoff into Howe Creek, which then drains directly into the Intracoastal Waterway.



These photos illustrate that in 1984, only 16% of the entire Howe Creek Watershed was developed.



By 2000, nearly 84% of the watershed was developed.

Photos/facts courtesy of NC Coastal Federation.