BMC WATERSHED RESIDENT RECEIVES AWARD

Charlie Cribb, a Burnt Mill Creek Watershed resident, has received the **Watershed Friendly Yard & Resident** award by the City of Wilmington Storm Water Services and Cape Fear River Watch, Inc.

Mr. Cribb attended all of the *free* Best Management Practice (BMP) workshops offered by the EPA 319 grant held at the Storm Water Demonstration Site. He was particularly interested in the workshops on buffers, rain gardens and native plants.

Mr. Cribb's property drains runoff directly into Burnt Mill Creek. He planted a variety of native plants, trees and shrubs in order to filter storm water runoff before it entered the creek. "Before implementing BMPs, my yard had very few plants and no obstructions for storm water runoff to navigate on its way towards Burnt MIll Creek." Now Mr. Cribb has several BMPs on his property including a buffer which helps to trap sediment and nutrients found in runoff.

"I installed a native, vegetative buffer in my backyard to increase water filtration before it enters Burnt Mill Creek, but also to slow erosion, invite wildlife onto my property and to provide a natural, relaxing atmosphere in my backyard." Native plant vegetation helps to absorb runoff, filter out nutrients and prevent erosion. Native vegetation is also better adapted to the soil and weather conditions of this region and require less water and virtually no fertilizer. Mr. Cribb realizes that placing BMPs on his property not only protect water quality, but add value to his house and property.

Mr. Cribb also attended the Creekkeeper training session in March and plans to remain an avid protector of Burnt Mill Creek. He received a certificate, a yard sign and a Green Culture Rain Barrel for his commitment to protecting local water quality in Burnt Mill Creek.

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Burnt Mill Creek Water Quality Profile inside....

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STORM WATER WATCH

Burnt Mill Creek Watershed Issue

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WATER POLLUTION SOLUTIONS

- Clean up after your pet
- Throw litter in the trash
- Get your soil tested to obtain accurate fertilizer recommendations
- Never fertilize before it rains
- Plant native plants because they require less water and virtually no fertilizer
- Put grass clippings back on the lawn as a natural fertilizer
- Wash your car on the grass or at a commercial car wash
- Repair vehicle leaks
- Dispose of used auto fluids at the County landfill or an auto parts store
- Never dump anything into a storm drain or drainage ditch

Inside This Issue

RAISING AWARENESS IN THE BURNT MILL CREEK WATERSHED

In 2002, the City of Wilmington was awarded an Environmental Protection Agency (EPA) Clean Water Act Section 319(h) grant. The EPA 319 grant program is federal funding available for selected agencies to implement nonpoint source (nps) pollution management programs within their own communities. Storm Water Services received 319 grant funding to implement a three-year project called the Burnt Mill Creek Outreach & Demonstration Project. The project began in June 2002.

The Burnt Mill Creek (BMC) watershed was an ideal choice for this project because of the water quality problems Burnt Mill Creek has experienced. BMC is the most degraded creek in Wilmington and is on the State's 303d listing of impaired waterbodies. BMC is located in a highly urbanized watershed with a significant amount of impervious (hard) surfaces. Runoff entering BMC eventually empties into the Cape Fear River. UNCW monitors the water quality of the creek and has found consistently high levels of fecal coliform bacteria, low dissolved oxygen levels and frequent algal blooms. Significant erosion and other water quality problems have also led to BMC being selected for stream restoration projects by the NC Wetlands Restoration Program.

The cornerstone of the grant project is a Storm Water Demonstration Site in Anne McCrary Park on Randall Parkway. The Demonstrations Site, installed by the City Parks Department, features Best Management Practices, or BMPs, which are landscape additions or improvements that help to reduce pollution in storm water runoff. The public is encouraged to visit the Demo Site and learn how they can easily and inexpensivley install BMPs on their own property. Doing so will help improve water quality in our local waterways. BMPs featured in the Storm Water Demonstration Site include:

- ~ rain barrels
- ~ rain garden
- ~ grassy swale
- ~ shoreline buffer
- ~ streambank restoration
- ~ pervious parking lot
- ~ semi-pervious walkway
- ~ bioretention area
- ~ shade trees
- ~ 1/2 acre of native plants
- ~ pet waste disposal stations

The first year of the project focuses outreach and education efforts on a small segment of the population in the BMC Watershed. The goal is to increase awareness about watershed issues and to encourage residents & businesses within this target audience to adopt responsible watershed practices. This includes the adoption of BMPs on personal property and personal actions that will result in a cleaner Burnt Mill Creek.

The remaining years of the grant will enable residents and businesses in the entire City to participate in the activities offered by the project. These activities include free workshops, native plant and rain barrel giveaways, homeowner BMP guides, citizen awards and recognition, watershed awareness surveys, and a mass media campaign. Future workshops will focus on landscaping with native plants, habitat gardening, how to build a rain garden, installing a rain barrel, building a bioretention area and planting a vegetated buffer. If you would like to attend a workshop or would like more information, please call (910) 343-4777.

Bioretention areas are designed to capture, absorb and filter polluted runoff and are attractive landscape additions.

Burnt Mill Creek Water Quality Profile

The Burnt Mill Creek Watershed drains into Smith Creek and then into the Cape Fear River. Pollutants found in runoff impair the water quality in Burnt Mill Creek and impacted water bodies.

Size of watershed: 4,274 acres

Burnt Mill Creek fact: Is the most impaired creek in Wilmington

Watershed land uses: The Burnt Mill Creek Watershed drains a large part of the older, heavily urbanized area of downtown Wilmington. This watershed has a significant amount of impervious surface and consists of commercial and industrial businesses, multi-family residential apartment complexes and single-family residential homes.

Impervious (hard) surface coverage of watershed: 64%

History: A lumber mill operated on Burnt Mill Creek until it burned down in the 1700's. In addition, domestic wastewater used to drain into the Creek. Since then, the creek has been channelized, meaning it has lost its natural twists and turns. Coupled with impervious surfaces and human impacts, this has led to increased amounts of stormwater runoff and pollutants entering the creek.

Primary problems in Burnt Mill Creek:
- ✕ High counts of fecal coliform bacteria (found in pet waste)
- ✕ Low dissolved oxygen (caused by decaying algae)
- ✕ High nutrient levels (caused by fertilizer, pet waste, decaying yard waste, etc)
- ✕ Frequent algal blooms (caused by high nutrient levels)
- ✕ High sediment levels (from eroding streambanks, construction sites, land disturbing activities, poorly maintained yards)

Creek Classification: "C". The designation "C" means that the intended uses for the creek are aquatic life propagation, general use, fishing, and non-body contact recreation such as canoeing.

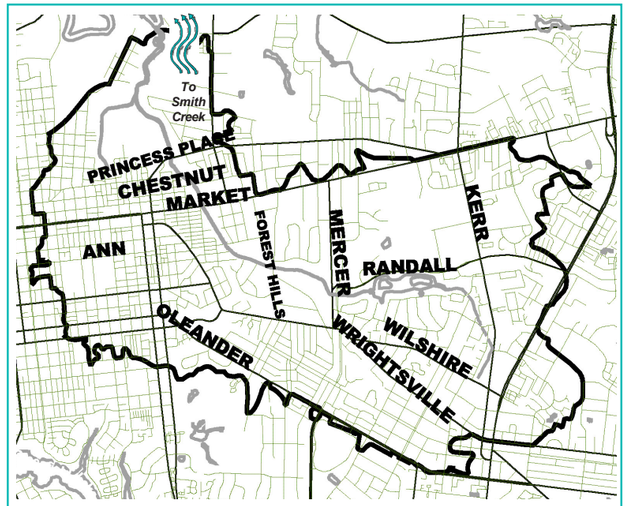
Currently, Burnt Mill Creek is on the **State's 303(d) list** - a listing of all water bodies in the state that do not meet water quality standards and their intended uses.

Recent water quality monitoring data collected by UNCW indicated that Burnt Mill Creek had poor microbiological water quality, exceeding the standard for human contact in seven out of twelve tests.

What you can do:
- ✓ Pick up pet waste
- ✓ Use minimal fertilizers and pesticides (get your soil tested to obtain accurate fertilizer recommendations for your lawn)
- ✓ Put grass clippings back on the lawn as a natural fertilizer
- ✓ Plant native plants because they stabilize soil and require less irrigation and are generally drought and disease resistant
- ✓ Put litter (including cigarette butts) where it belongs - in the trash
- ✓ Do not blow leaves, grass clippings or yard debris into streets, storm drains or drainage ditches (City Ordinance: Section 11-3)
- ✓ Wash vehicles on the grass or at a commercial car wash
- ✓ Repair vehicle leaks immediately
- ✓ Dispose of paint, motor oil, antifreeze at the County Landfill
- ✓ Never dump anything into a storm drain or drainage ditch

This section of Burnt Mill Creek is covered with trash, sediment and algae. Please do your part to protect Burnt Mill Creek.

What's in store for the Burnt Mill Creek Watershed?
The NC Wetlands Restoration Program is working with the City to implement projects that will help improve water quality in Burnt Mill Creek. Future restoration projects include working with local landowners to perform streambank restorations and stabilizations, establishing woody vegetation and buffers on properties that border the creek, constructing a storm water wetland in Wallace Park to help control the quantity and quality of urban runoff, and educating citizens on the simple things they can do to help improve the water quality in Burnt Mill Creek.



A watershed is an area of land that drains runoff to a body of water such as a lake, stream, or river. On the map, the land area within the dark border is the Burnt Mill Creek Watershed. This area sheds runoff into Burnt Mill Creek, which flows into Smith Creek and then empties into the Cape Fear River.

WETLAND PROJECTS
in the Burnt Mill Creek Watershed

Kerr Avenue Wetland
The City of Wilmington, Cape Fear River Watch, and the NC Wetlands Restoration Program installed a storm water wetland on Kerr Avenue *(behind Apple Annie's Bakery)* in 2000.

The wetland filters storm water runoff from nearby S. College Road and several large parking lots in the vicinity. It also provides habitat for muskrats, bullfrogs, various species of aquatic plants, and several bird species including great blue herons, white ibis, cooper hawks, redtail hawks, snowy egrets, redwing blackbirds and eastern kingbirds.

Wallace Park Wetland
The Market Street Drainage relief project involves installing a new drainage system down Perry Avenue to mitigate flooding problems on Market Street near 18th and 19th streets. As part of this project, a storm water wetland will be installed at Wallace Park to filter storm water runoff from 25 acres of fully developed residential area. Currently, runoff from this area receives no treatment prior to discharge into Burnt Mill Creek.

Volunteer opportunities are available through Cape Fear River Watch (CFRW) including wetland cleanups, plantings, and maintenance. Call CFRW at (910) 762-5606.

RAIN BARRELS

During a typical storm of 1" of rain over a 24-hour period, over 700 gallons of water runs off an average-sized roof (about 1,200 square feet). Since your roof can't absorb rainwater, it flows into the gutters, drops through the downspout and onto the ground.

Once on the ground, it moves quickly toward its drainage destination (a storm drain, ditch, creek, etc.), but not before picking up pollutants such as fertilizer, pet waste, litter and motor oil.

What is a rain barrel?

Rain barrels are simply containers that collect and store rainwater from a roof; the collected water is used to irrigate the landscape. Rain barrels are usually positioned below the downspout of a roof gutter.

Types of rain barrels

There are endless varieties of rain barrels; everything from instructions on how-to-build-your-own rain barrel to expensive designer rain barrels. Just remember that an efficient rain barrel makes a significant difference in controlling water pollution in your community.

What are the benefits of using a rain barrel?

- *Reduce runoff*
  Rain barrels reduce the amount of storm water runoff leaving your property by collecting and storing rainwater.
- *Water your landscape*
  Rain barrel water is ideal for plants because it has no added chemicals and is warmer than well or tap water.
- *Conserve water*
  Rain barrels help to conserve water during times of drought or water shortages. Using water from a rain barrel may be the only way to water your garden during a drought.
- *Save money*
  Using a rain barrel (or two) can save you money on your water bill since you are using rainwater to irrigate your landscape.

Installing a Rain Barrel

Rain barrels should be placed directly under gutter downspouts *(as shown in the picture to the left.)* Since most downspouts run straight to the ground, you may need to modify yours a bit by cutting or sawing it to make it shorter.

Generally, gutter downspouts consist of a series of aluminum or plastic tubes with ends that are tucked inside each other and nailed or screwed to a building with brackets. Follow these steps to detach and reattach gutter tubes as necessary:

- » Use a hammer or screwdriver to undo the brackets that are holding the tubes against the house or building.
- » Remove the bottom section of the downspout.
- » Place your rain barrel underneath the downspout. A flexible plastic tube (from a hardware store) can be attached to the spout to help direct the flow of water into the barrel if needed.
- » Using a hammer or screwdriver, reattach the downspout to the building.

Some Things to Consider About Rain Barrels

- » Rainwater collected in rain barrels is not safe to cook with, bathe in or drink.
- » Buy a rain barrel with an overflow hose to divert excess water away from your house in case the rain barrel fills to capacity.
- » Make sure your rain barrel has a tight lid and screen so children or animals can't fall in and mosquitoes can't breed.
- » If you are converting an old storage barrel into a rain barrel, make sure you know what type of material the barrel contained before you got it. Some barrels may have contained toxic materials, and you don't want to pass these substances on to your lawn or garden.