

GREENFIELD LAKE STAKEHOLDERS INITIATIVE

SUMMARY REPORT

JUNE 26, 2002

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Greenfield Lake Stakeholders Initiative

Summary Report

I. BACKGROUND

Greenfield Lake is a 100+ acre lake located at the intersection of Burnett Boulevard and Carolina Beach Road within the City limits of Wilmington, North Carolina. The City of Wilmington owns the entire lake along with all of the land and facilities up to Lake Shore Drive. Some of the facilities include a multi-use path, canoe rental, skateboard park, tennis courts and an amphitheater. Runners, bikers, boaters, fishermen and park patrons use the lake for recreation on a daily basis. The Wilmington Azalea Festival focuses on the lake every April. The landscape adjacent to the lake is filled with azaleas as well as old growth cypress trees. In fact, the cypress trees dominate much of the water surface in the lake.

The lake is classified 'C' by the North Carolina Division of Water Quality, meaning its main use is aquatic life propagation, general use, fishing and non body contact recreation like canoeing. It is also classified as 'swamp water', which is indicative of naturally low dissolved oxygen and pH.

Greenfield Lake was constructed in 1750 for the purpose of providing water for milling and irrigation for the surrounding plantation. At the time, the lake was over a mile south of the town of Wilmington. Like most towns in North Carolina, Wilmington grew and eventually surrounded the lake with development. In 1925, the City of Wilmington purchased the lake and began creating the park that still exists there today.

Years of aquatic plant management using chemicals, winter drawdowns and dredging have not yielded results that would keep the lake from being listed as impaired. Sediment is slowly filling in parts of the lake making it shallower. This situation makes it easier for certain aquatic plants to flourish, as the bottom of the lake now receives more sunlight. Different herbicides have been used with mixed results and there is much concern about long-term effects.

Since 1996, the City of Wilmington has contracted the UNCW Center for Marine Science Research to conduct water quality monitoring at Greenfield Lake. Low dissolved oxygen, high nutrient levels and high fecal coliform counts have led the State Division of Water Quality to classify the lake as impaired. These poor water quality parameters cause an occasional fish kill, algal blooms and intense aquatic plant growth. The recreational uses of the lake are hindered because of these problems. The approximate four square mile watershed is intensely developed causing urban runoff to drain into the lake. Virtually all types of urban land uses exist in the watershed

including single-family homes, multi-family, commercial, hospital, light industrial and roadways.

II. GREENFIELD LAKE INITIATIVE STAKEHOLDERS CHARTER

On October 18, 2001, approximately 25 people attended an Introduction Luncheon for City of Wilmington Leadership for the Greenfield Lake Outreach Initiative. Water quality information and data, the Cape Fear River Basin plan, and Greenfield Lake's 303d* list impaired status were presented by guest speakers at the luncheon. In addition, a walking eco-tour of the lake and an Enviroscope watershed presentation were conducted for participants. At this session, attendees were posed two questions:

- 1) What are the issues in the watershed?
- 2) Who are the stakeholders in the watershed?

Through collaborative discussion, four main issues were identified as impacting the Greenfield Lake Watershed. The issues identified were pet/animal waste, lawn care, sanitary sewer overflows/illicit discharges and public safety. Following the meeting, Dave Mayes, Jennifer Coyner, Danielle Seneschal, and Emily Peoples recruited stakeholder groups to participate in the Greenfield Lake Stakeholders Initiative. A charter was developed to govern the actions of the group.

**Section 303(d) of the Clean Water Act (CWA) requires states to develop a list of waters not meeting water quality standards or which have impaired uses. Waters may be excluded from the list if existing control strategies for point and nonpoint source pollution will achieve the standards or uses. Water bodies which are listed must be prioritized, and a management strategy or total maximum daily load (TMDL) must subsequently be developed for all listed waters.*

The following list represents members of the Greenfield Lake Stakeholders Initiative:

Christina Rexroad
Osprey Landing Apartments

Garden Lake Estates

Marilyn Stowell
New Hanover Soil & Water
Conservation District

Harry Mathis
Citizen

Mike Claffey
Cape Fear Country Club

Andy Wood
National Audubon Society

Josephine Watson
Citizen

Dolores Bradshaw
City of Wilmington
Environmental Services Division

Susan Jackson
New Hanover Humane Society

Johnnie N. Henagan
Sunset Park Neighborhood Assn.

Dawson Freuler

Nina Cain

City of Wilmington
Public Services & Facilities

Christine Campel
City of Wilmington
Police Department
Donny Williams
City of Wilmington
Police Department

Jennifer Coyner
Cape Fear River Watch

Dave Mayes
City of Wilmington
Storm Water Services

Emily Peoples
City of Wilmington
Public Services & Facilities

Jennifer DiLullo
City of Wilmington
Storm Water Services

**Technical support was provided to the Stakeholders Group by the following individuals:*

Cam McNutt
North Carolina
Division of Water Quality

Bouty Baldrige
Cape Fear River Watch, Inc.

Mike Mallin
UNC-Wilmington
Center for Marine Science Research

Christy Perrin
NCSU- Watershed Education for
Communities & Local Officials

With stakeholders input, a mission statement was developed for the charter "to actively involve the public and raise awareness for positive changes within the Greenfield Lake Watershed."

The purpose of the Greenfield Lake Stakeholders Initiative was to develop recommendations for increasing public awareness of the four main issues identified above. The long-term goal is to improve water quality in Greenfield Lake, which would eventually help restore the Lake's full recreational use and remove it from the State's impaired list. The intent of this Summary Report will serve to provide guidance for public outreach and awareness efforts to City staff and other organizations.

The Greenfield Lake Stakeholders Initiative Group consisted of a broad range of stakeholders who represented various interests related to the four main issues identified within the watershed. Alternate stakeholders were allowed to represent absentee group members and have a voice in the decision-making process. Group members were kept informed of meetings and issues by email, phone and mail communication. The group operated by consensus rule and decisions were made only with concurrence of all members represented at the meetings.

III. DISCUSSION OF THE FOUR MAIN ISSUES

The stakeholders group generated public outreach recommendations for the four main issues: lawn care, pet waste, illicit discharge and public safety.

LAWN CARE

The use of fertilizers, pesticides and herbicides have an impact on receiving streams, lakes and waterways. Property owners, landscape companies and City of Wilmington staff use these chemicals on a daily basis in the Greenfield Lake watershed. When used improperly, these chemicals can end up in the lake and create conditions of low dissolved oxygen, algae blooms and fish kills.

Improper disposal of yard waste material can cause blockages in the storm drain system and cause flooding of streets and yards. Ditches, creeks, curbs and gutters should not be the recipients of yard waste for these reasons. In addition, the eventual decaying of organic matter can add nutrients to runoff causing algal blooms and impaired water quality, further compounding the problem in Greenfield Lake. The City does pick up yard waste on a weekly basis. Composting is another option for property owners who do not want to haul the waste to the street.

Xeriscaping is a method of landscaping that uses native plants and natural areas to conserve water and protect the environment. These design techniques allow for attractive, cost effective and low-maintenance landscapes.

PET WASTE

Animal waste is a water pollutant and a public health hazard, especially in public areas and multi-family developments that often have the highest concentrations of pet waste. Factors affecting the amount of animal waste in the Greenfield Lake watershed include 1) the population of stray dogs and cats, 2) compliance of pet owners to city codes regarding pet waste, and 3) the population of resident ducks and geese fed by humans.

Pet waste should be buried at least 5 inches below ground or sealed in an airtight container or bag and placed in a garbage receptacle. There are alternative ways to dispose of waste, including digesters or pet waste receptacle stations.

ILLICIT DISCHARGE

Illicit discharge is the illegal or accidental discharge of polluted material directly or indirectly into the storm drainage system. Illicit discharges adversely affect water quality and are considered a threat to human and aquatic life. Examples of illicit discharge include sanitary sewer overflows, petroleum-laden runoff from parking lots and driveways, yard waste, hazardous materials such as household cleaners and paint, pet waste, grease discharges from restaurants and homeowners, car washing and vehicle

accident spills. In particular, sanitary sewer overflows are caused by high rain events, loss of power, overgrowth of tree roots and grease clogging the sanitary sewer lines.

Best management practices for illicit discharge suggest focusing on 1) informing the public of the impacts of illicit discharge on surface water quality, 2) proper methods for storing, handling and disposing of hazardous materials, and 3) alternatives to hazardous materials and practices.

PUBLIC SAFETY

Public safety is a concern at Greenfield Lake. Current safety issues include the lack of specific park police, poor lighting, dense foliage creating the opportunity for crimes, excessive speed limit, overgrown lots, the homeless population, and the personal safety of people using the lake for recreation.

Public safety is an issue for this stakeholders group because there was a general feeling that unsafe elements around the lake contributed to the decline of this resource. If public safety issues are addressed, it is anticipated that lake patrons will feel safe using the lake and therefore gain a sense of awareness and stewardship for this resource as well.

IV. STAKEHOLDER MEETINGS

The Greenfield Lake Stakeholders Initiative met on the following occasions to discuss outreach recommendations for the four main issues concerning Greenfield Lake.

<u>Meeting Date</u>	<u>Discussion</u>
October 21, 2001	Kick-off Luncheon Meeting
January 23, 2002	Greenfield Lake Background & History <ul style="list-style-type: none">□ Water Quality Data – Dr. Mike Mallin, UNCW□ Lake History – Bouty Baldrige, Cape Fear River Watch□ Enviroscope Watershed Presentation – Jennifer Coyner, Cape Fear River Watch
February 6, 2002	Lawn Care Outreach Recommendations Discussion <ul style="list-style-type: none">□ Speaker - Marilyn Stowell, New Hanover Soil & Water Conservation District
February 20, 2002	Pet Waste Outreach Recommendations Discussion <ul style="list-style-type: none">□ Speaker - Christina Rexroad, Osprey Landing
March 6, 2002	Illicit Discharge Outreach Recommendations Discussion <ul style="list-style-type: none">□ Speaker - Dolores Bradshaw, COW Environmental Services
March 20, 2002	Public Safety Outreach Recommendations Discussion <ul style="list-style-type: none">□ Speaker - Donny Williams, COW Police, Crime Prevention Through Environmental Design
April 10, 2002	Greenfield Lake Tour <ul style="list-style-type: none">□ Field Trip & Physical Identification of Concerns□ Guest Speakers
May 8, 2002	Final Outreach Recommendations Review Session
June 5, 2002	Final Outreach Recommendation & Summary Report Review Session
June 26, 2002	Final Review Session for Summary Report <ul style="list-style-type: none">□ Sign Stakeholders Statement of Commitment

V. OUTREACH RECOMMENDATIONS

The following pages list outreach recommendations for the Greenfield Lake Watershed. These recommendations are defined by target audience, message or objective, details for action, priority, timeline, responsibility, resources required, and if the outreach technique could apply to other watersheds within the City.

Approximate cost estimations are listed for certain outreach recommendations. These estimations are based on approximately 3500 tax parcels in the Greenfield Lake Watershed.

*Please note: these are approximate estimations and are subject to change. They have been calculated to serve as a guideline for budget planning purposes.

VI. STAKEHOLDERS STATEMENT OF COMMITMENT

The stakeholders identified in this report are committed to implementing the outreach recommendations to the maximum extent practical.

These agencies, organizations and individuals agree to use available resources to implement the recommendations and to promote the four main issues in the Greenfield Lake Watershed. Funding through the city budget process and grant application will be sought as the primary means of implementing these outreach recommendations.

City of Wilmington Storm Water Services
Dave Mayes
Jennifer DiLullo

Garden Lake Estates
Dawson Freuler

City of Wilmington Public Services & Facilities
Nina Cain
Emily Peoples

New Hanover Soil & Water Conservation District
Marilyn Stowell

City of Wilmington Environmental Services Div.
Dolores Bradshaw

New Hanover Humane Society
Susan Jackson

City of Wilmington Police Department
Christine Campel
Donny Williams

Osprey Landing Apartments
Christina Rexroad

Audubon Society
Andy Wood

Sunset Park Neighborhood Association
Johnnie N. Henagan

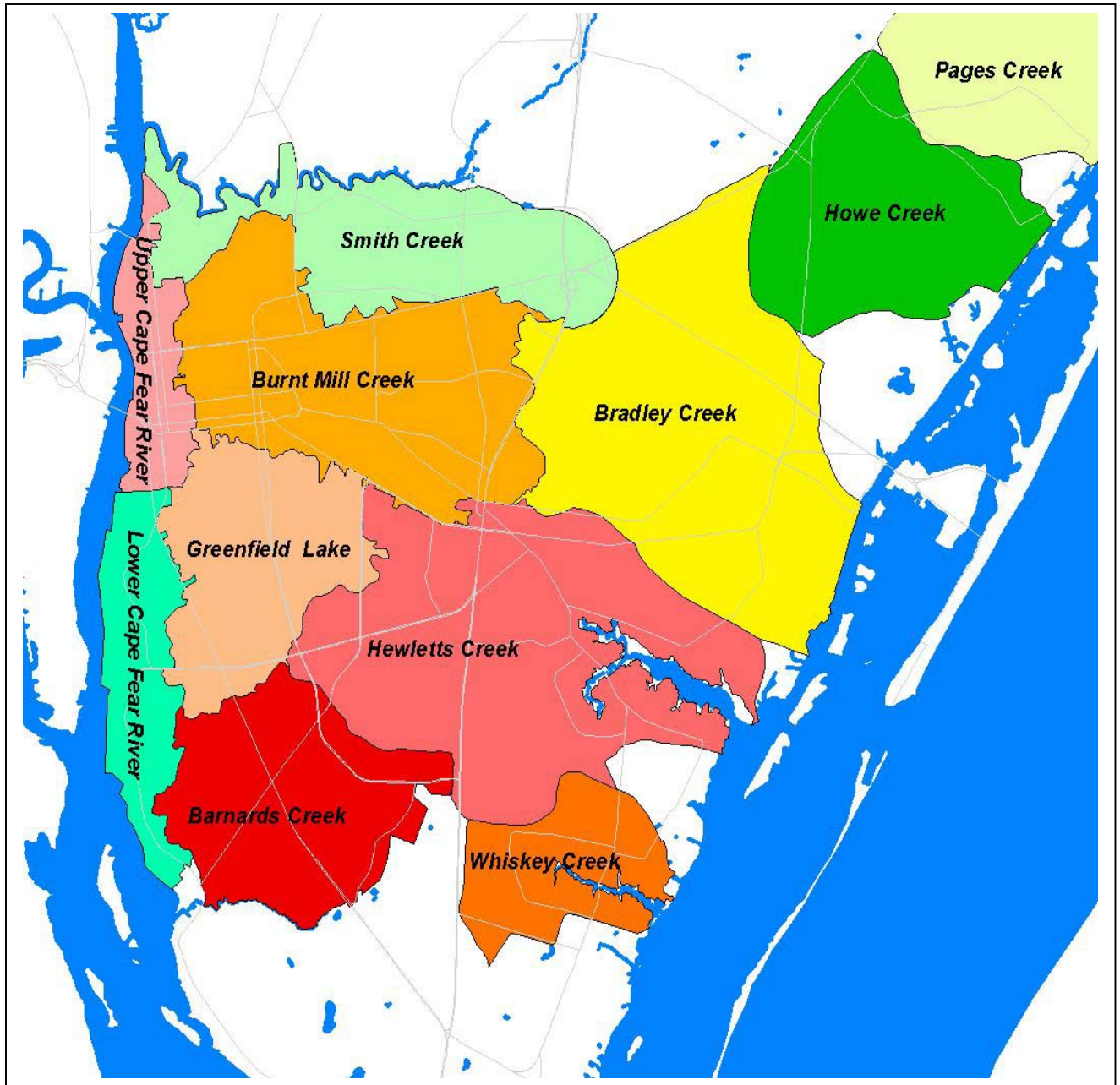
Cape Fear Country Club
Mike Claffey

Citizen
Harry Mathis

Cape Fear River Watch, Inc.
Jennifer Coyner

Citizen
Josephine Watson

VII. WILMINGTON WATERSHEDS MAP



VIII. GREENFIELD LAKE WATERSHED MAP

