



# Incorporating Urban Stormwater Management into an Incentive-Based Watershed Permitting Framework

# Overview

- Trading Grant History
- Potential Trading Applications in Cape Fear River Basin
- Trading 101
- Overview of CFRA's Trading Project

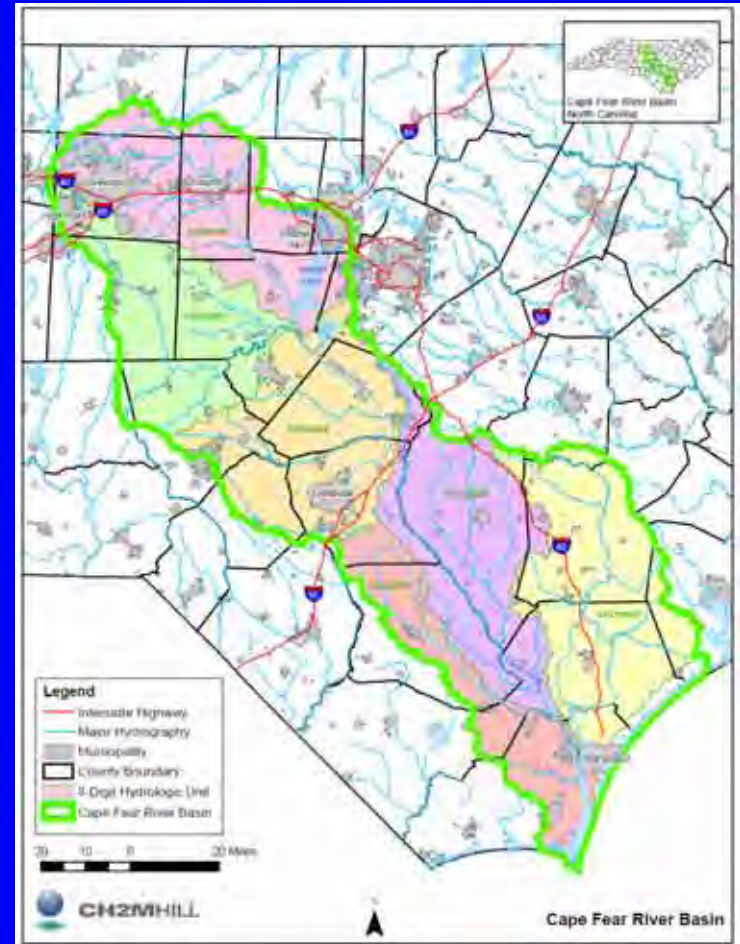
# EPA Targeted Watershed Program

- Cape Fear River Trading Policy Development & Implementation.
- Nominated By Governor Easley.
- Selected As Semi-Finalist By Region 4.
- Selection Of Finalists Announced.
- \* CHOSEN \*

# Potential Trading Applications In Cape Fear River Basin

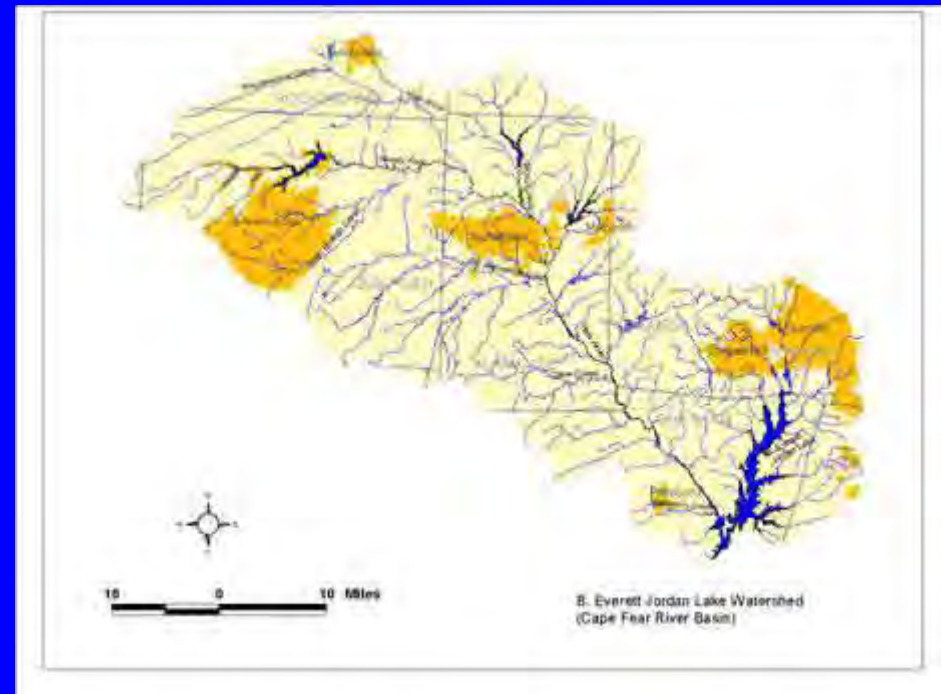
# Cape Fear River Basin

- 23% of NC's land area.
- 27% of NC's population.
- 30 major NPDES facilities.
- Over 5 million swine.



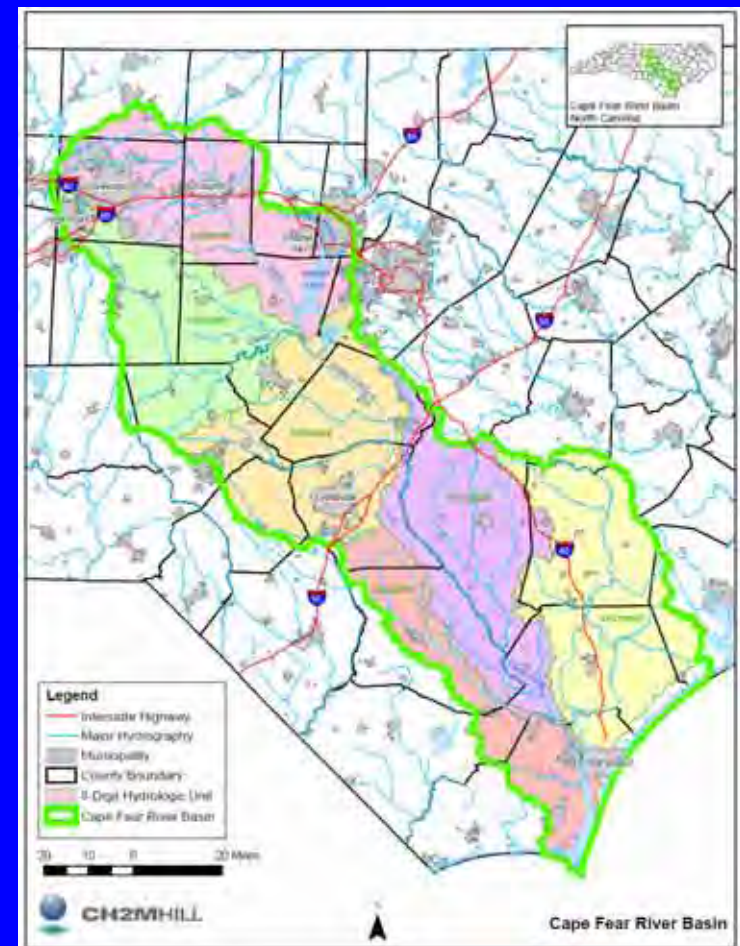
# Jordan Lake Watershed

- Jordan Lake - major water supply.
- Several major cities in watershed.
- Agriculture in Haw River arm.
- New Hope Creek arm on 303(d) list for chlorophyll a.
- State may include entire lake on 2006 list.
- TMDL near completion.



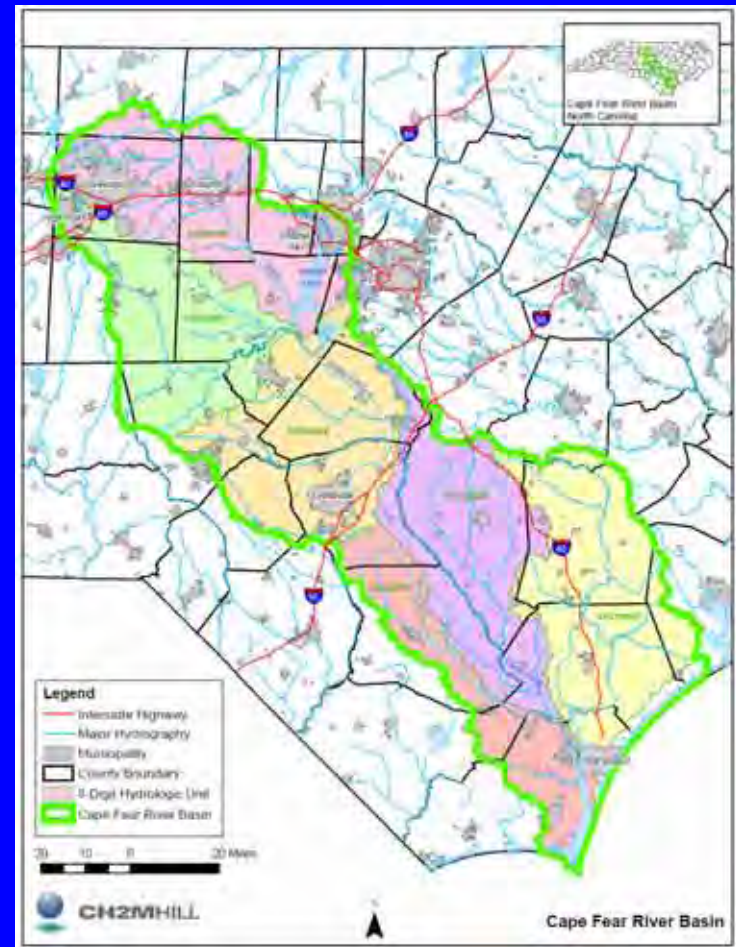
# Middle Cape Fear River Sub-Basin

- 3 Lock and Dam Structures along River.
- Nutrient enrichment behind structure near Fayetteville.
- State may include portion of river on 2006 303(d) list for chlorophyll a.



# Lower Cape Fear River Sub-Basin

- Wilmington is important North Carolina port.
- Estuary on 303(d) list for DO violations
  - Cause and source of low DO being studied.
- TMDL process underway
  - Monitoring almost complete.
  - Modeling just beginning.



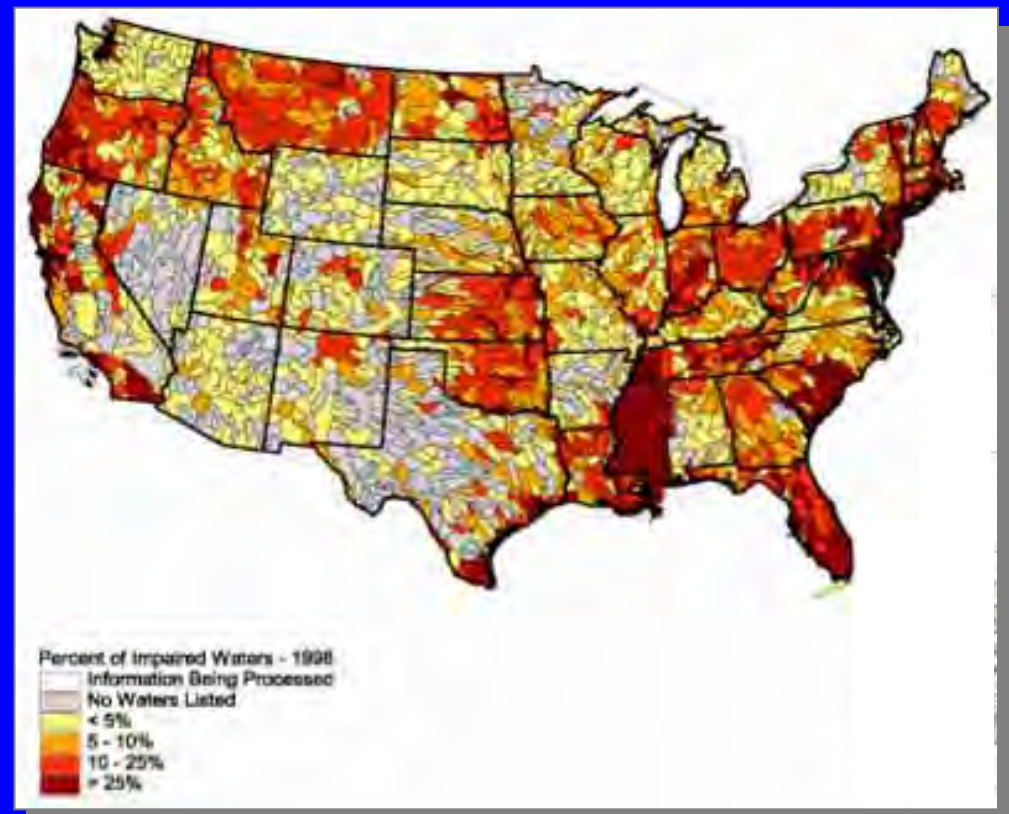
# Water Quality Trading

# Credit Trading Principles

- **Voluntary supplement** to surface water quality regulations.
- **Must be consistent** with CWA, state statutes, local laws & regulations.
- **Supports trading for nutrients & sediments**, but recognizes potential for trading other pollutants on case-by-case basis.
- **Provides flexibility** to select the most cost-effective pollutant reductions that achieve water quality goals.

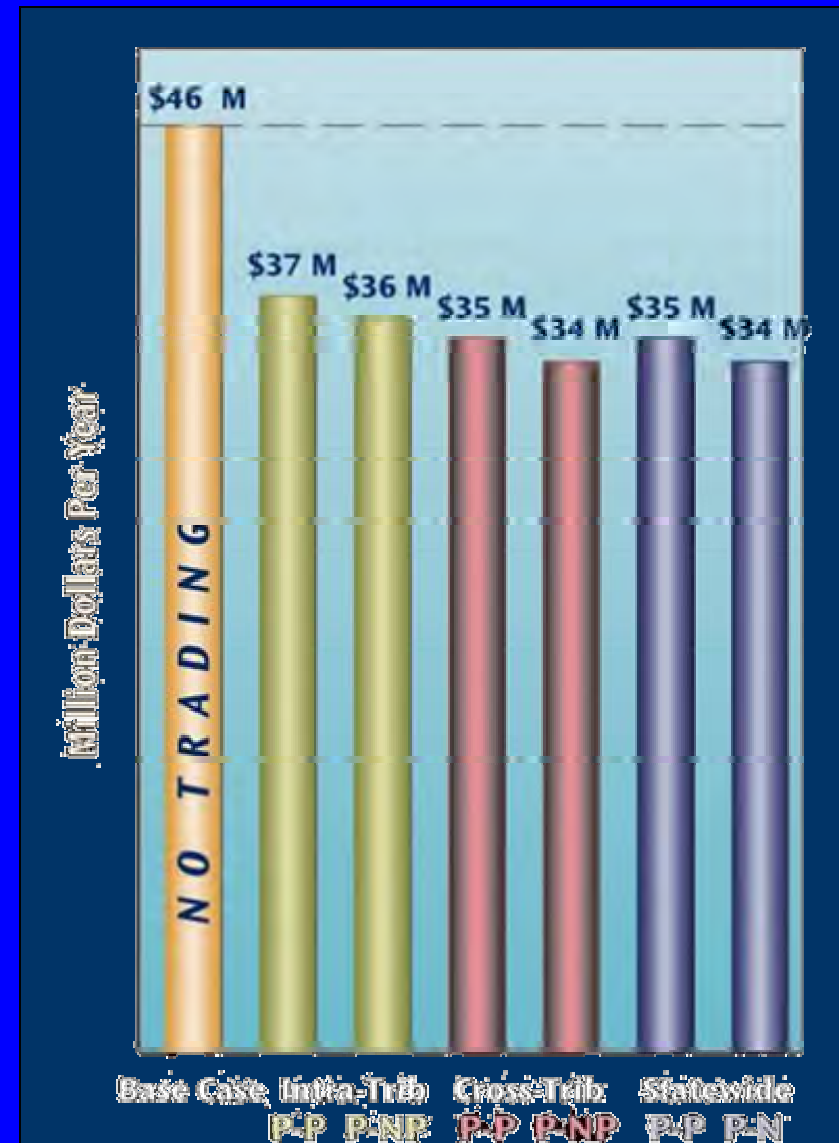
# Purpose of water quality trading policy

- Facilitate watershed stakeholders' development & implementation of trading programs.
- Encourage adoption of trading programs to:
  - implement TMDLs
  - reduce compliance costs
  - set incentives for voluntary reductions
  - promote watershed-based initiatives



# Water quality trading can reduce TMDL implementation costs

- *EPA's TMDL Cost Report*
  - most flexible approaches could save \$900 million annually when compared to least flexible approach
- *Nitrogen Credit Trading in Maryland: A Market Analysis for Establishing a Statewide Framework* showed trading could
  - save \$9-\$12 M/yr statewide
  - reduce costs 8% to 60% at the watershed



# EPA Water Quality Trading Policy: Contents

- Alignment of trading with Clean Water Act.
- Trading areas –within a watershed.
- Pollutants traded – emphasis on nutrients, sediment.
- Baselines – “credits” created only when reductions go beyond water quality based limits.
- Trading may occur pre-TMDL, to meet TMDL, and to maintain unimpaired waters.
- Elements of credible trading programs – accountability, monitoring, public participation.

# Watershed Based Permitting

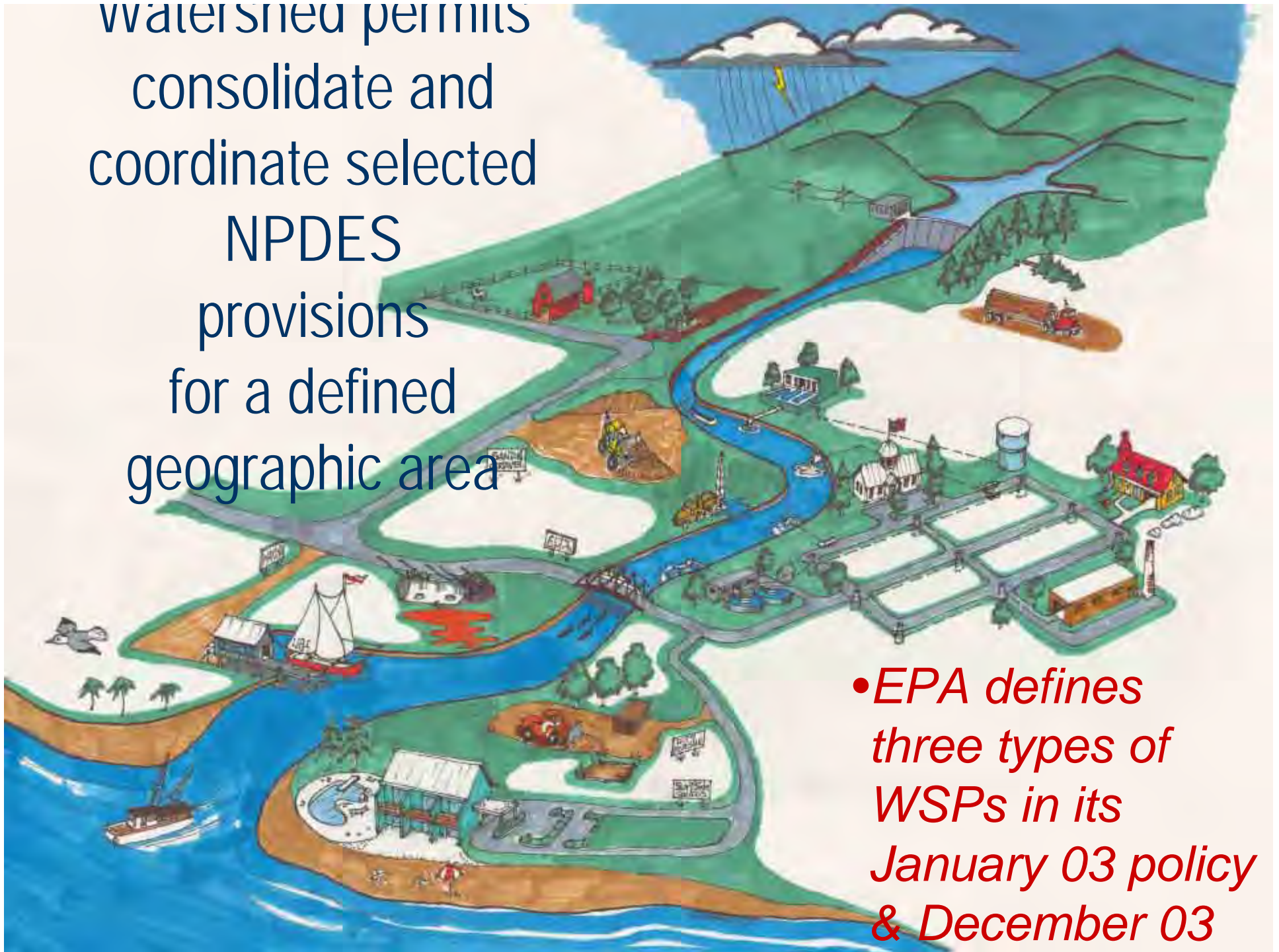
# Watershed Based Permitting Is...

...not just  
synchronizing permits  
by basin, but

...“an approach to  
developing NPDES  
permits for multiple  
point sources within a  
watershed.”



watershed permits  
consolidate and  
coordinate selected  
NPDES  
provisions  
for a defined  
geographic area



- *EPA defines three types of WSPs in its January 03 policy & December 03*

# Successful NPDES permits issued on a watershed basis will:

- Streamline multiple permits and capture administrative & programmatic efficiencies
- Provide a mechanism for implementing more cost-effective technologies and management practices, **including water quality credit trading**
- Integrate watershed management across Federal statutes: CWA, SDWA, ESA
- Encourage early and meaningful collaboration and cooperation among key stakeholders

# Water Quality permits consolidate trading provisions in one place

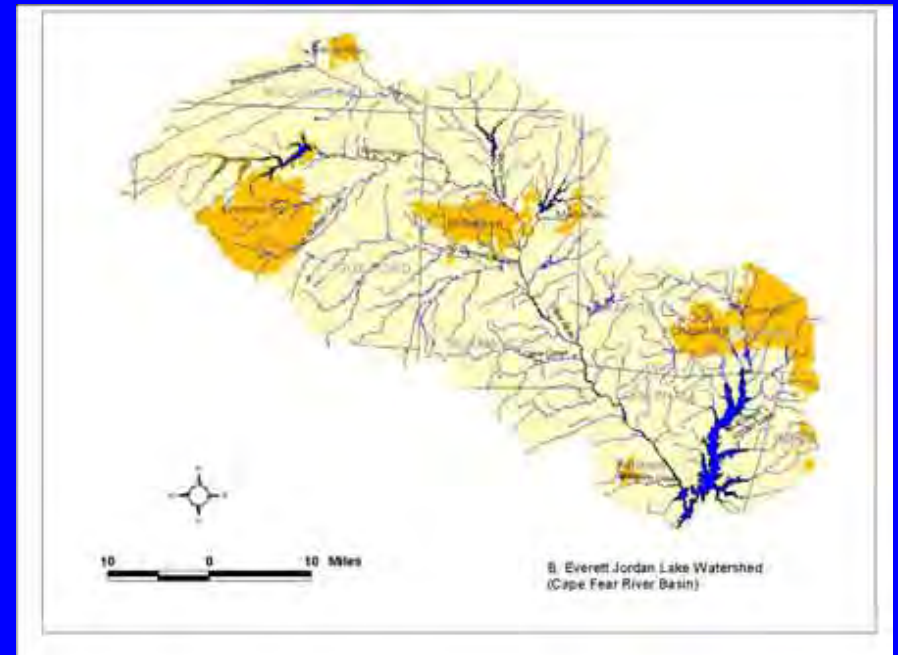
## Major Areas to Address per

## EPA Policy

- Authorization
  - General Authority
  - Antidegradation
  - Antibacksliding
- Trading Areas
- Tradable Pollutants
- Trading Baselines
- Credit Eligibility
- Credit Use
- Monitoring Specific to Credit Trading
- Compliance, Enforcement
- Public Participation & Information Access
- Reporting & Evaluation

# CFRA Trading Project

- Focusing on Jordan Lake watershed.
- Nutrient TMDL near completion.
- Trading project will implement TMDL more effectively.
- Trading project will incorporate urban stormwater.
- Project will last 2 years.



# CFRA Project - Six Step Process

- Visioning and chartering.
- Designing the trading program.
- Developing an implementation framework.
- Evaluating and enhancing existing monitoring program.
- Demonstrating trading, implementation and monitoring frameworks.
- Expanding trading program to other watersheds.

# Task 1 - Visioning and Chartering

Purpose - Develop project goals and shared vision for improving water quality in the Jordan Lake watershed.

- Chartering
  - 1st meeting - orient key partners to trading concepts and project.
  - 2nd set of meetings - develop charter.
- Ongoing stakeholder team meetings - check project status against charter.

# Task 2 - Designing Trading Program

Purpose - Develop pollutant trading program to test in Jordan Lake watershed.

- Assess incentives for trading.
- Identify baselines for trading.
- Identify and establish creditable BMPs.
- Review cost-effectiveness of potential credit options.
- Establish credit trading protocols.
- Select pilot subwatershed(s) to test and refine trading program.

# Task 3 - Developing Implementation Framework

Purpose - Evaluate mechanisms to implement, track, and coordinate the trading program.

- Evaluate existing frameworks.
- Develop watershed-based permitting alternatives.
- Develop draft final framework for pilot testing.

# Task 4 - Monitoring Program

Purpose - Evaluate and enhance available instream data, BMP data, and land use data to assess water quality trading benefits.

- Describe baseline conditions, continue to collect data.
- Review instream monitoring and enhance if needed.
- Review NPDES and NPS monitoring mechanisms and enhance if needed.
- Identify best candidate locations for BMPs in pilot sub-watershed.
- Perform monitoring for pilot demonstration.

# Task 5 - Pilot Demonstration

Purpose - Test and refine elements of trading program.

- Identify specific creditable BMPs.
- Select BMPs for pilot sub-watershed(s).
- Implement trading and permitting framework in pilot sub-watershed(s).

# Task 6 - Expand Innovative Approaches

Purpose - Share lessons learned across Cape Fear Basin, NC, and other areas.

- Evaluate demonstration results in pilot sub-watershed and propose final trading program.
- Develop recommendations to apply framework throughout Basin and to other watersheds.
- Document lessons learned.

# Questions?

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<http://www.epa.gov/owow/watershed/trading.htm>

# **For Further Information...**

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**Visit Our Website:**

**[www.cfra-nc.org](http://www.cfra-nc.org)**