



# Managing Extremes

## Watershed and Climate Disruption

### EEP and Trends in Mitigation

May 7, 2010



**Background**  
**Production at EEP**  
**Trends**  
**Observations**



# The Partnership



# Ecosystem Enhancement Program

- DENR Program that:
  - Improves our environment.
  - Assists responsible economic development.
- Restores and preserves streams and wetlands:
  - Where the need is greatest.
  - Through partnerships with local and state agencies and interested parties
  - With willing landowners.

# EEP Provides Mitigation that is

- High quality
- Watershed planning based
- Cost effective



Tri-  
Part  
y



# History

- WRP launched in 1996 for local government and general public.
- Expanded in 2003 as Ecosystem Enhancement Program.
- Four programs:
  - DOT (Wetlands and Streams)
  - General Public (Wetlands and Streams)
  - Buffers enhancements (Tar/Pam, Neuse and Cape Fear basins)
  - Nutrient Offset (Tar-Pam and Neuse basins)

# EEP Overview

- Receipt-based – no appropriations
- Regulated
- State and national recognition
- Voluntary

# What EEP does

- Accept mitigation requirements
- Strategically plan, build and protect mitigation sites
- Coordinates with regulators

# Production

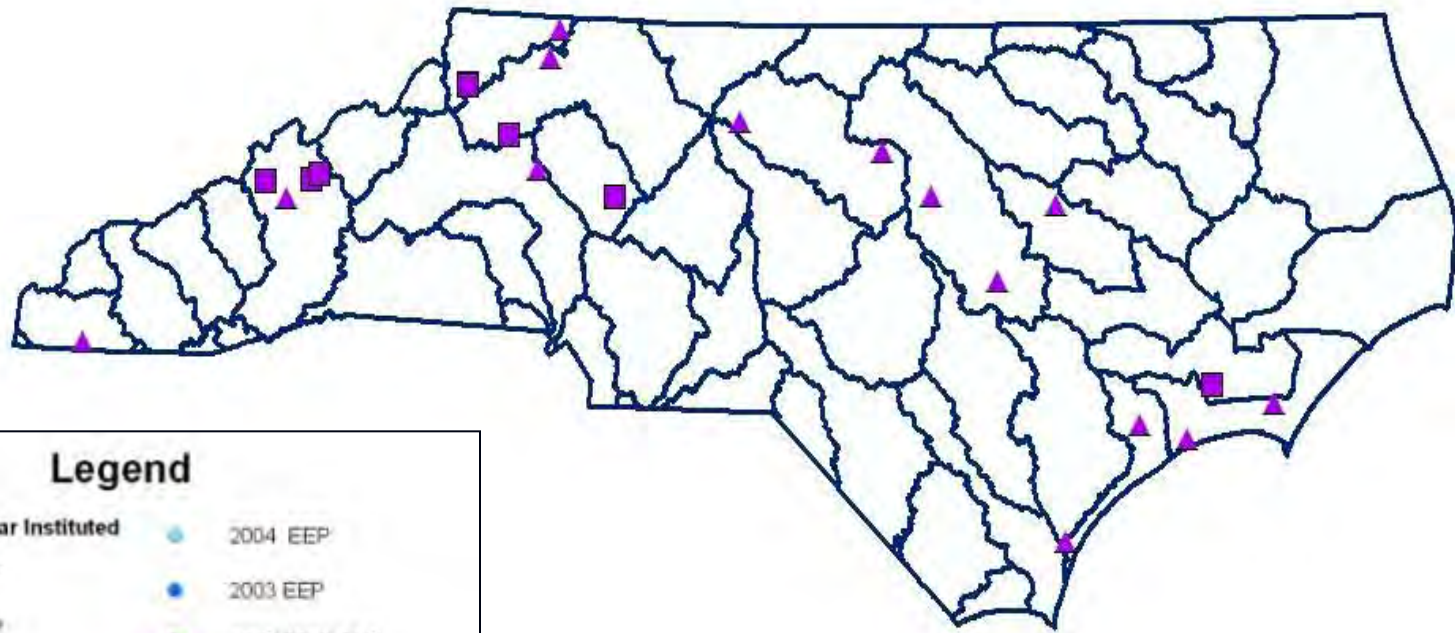


<b>Totals</b>	<b>Quantity</b>	<b>Unit</b>	<b>Credits</b>
Stream Mitigation*	3,060,000	feet	1,630,000
Wetland Mitigation*	30,000	acres	13,500
Riparian Buffer Mitigation**	550	acres	550
Nutrient Offset Nitrogen**	1,500,000	pounds	1,500,000
Nutrient Offset Phosphorus**	9,500	pounds	9,500

\* Through 6/30/2009

\*\* Through 12/31/2009

# 1997-2000

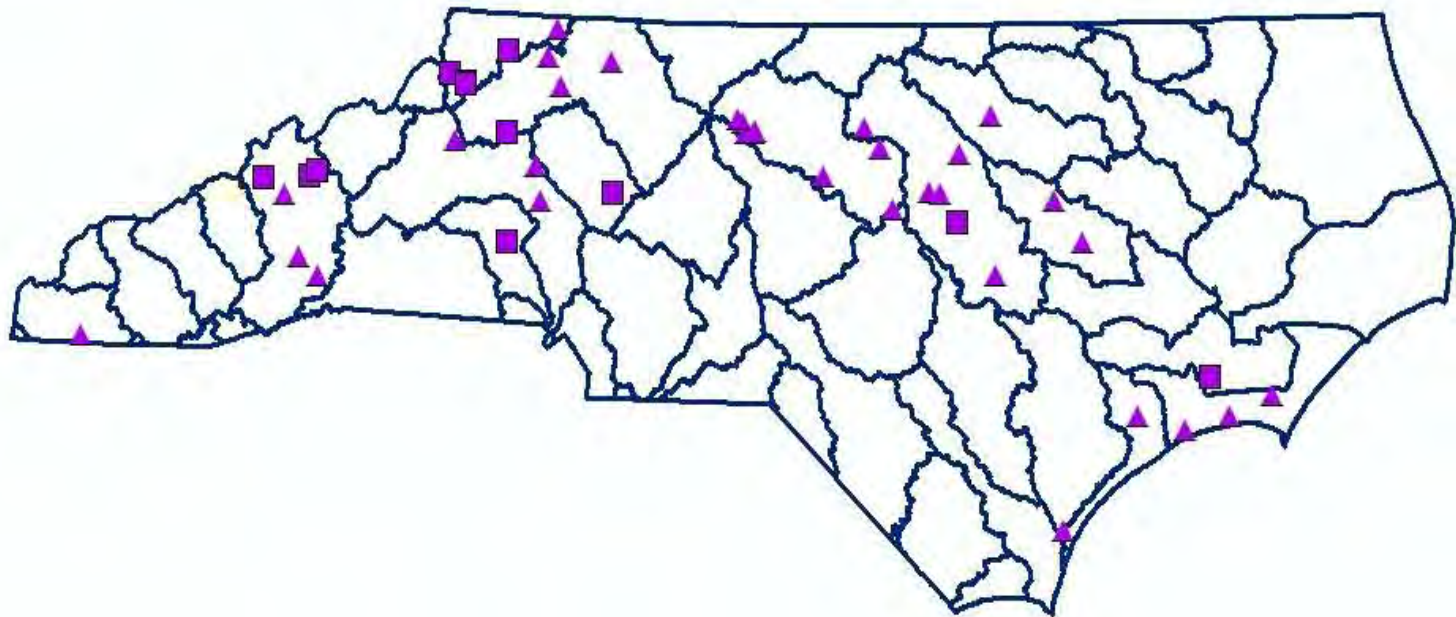


## Legend

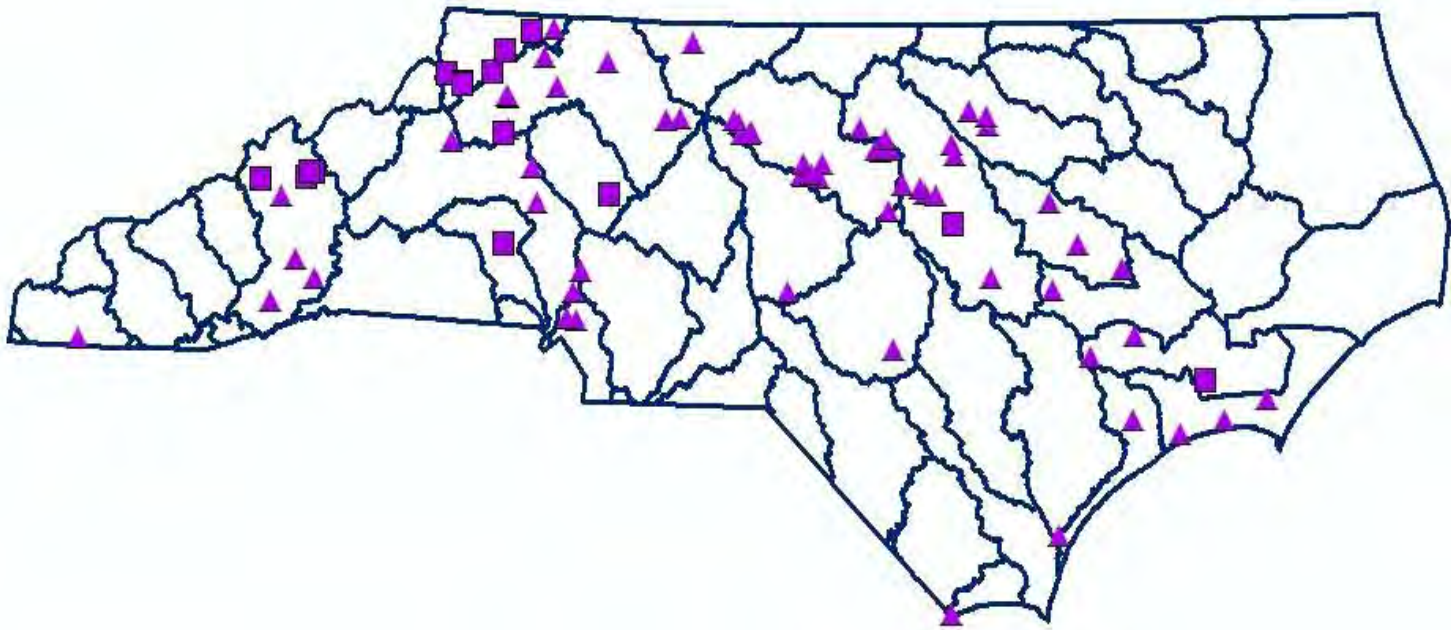
### Project Sites by Year Instituted

- |            |                        |
|------------|------------------------|
| ● 2009 EEP | ● 2004 EEP             |
| ● 2008 EEP | ● 2003 EEP             |
| ● 2007 EEP | ■ 1997-2003 DOT        |
| ● 2006 EEP | ▲ 1997-2002 WRP        |
| ● 2005 EEP | □ Catalog Units        |
|            | ■ Local Watershed Plan |

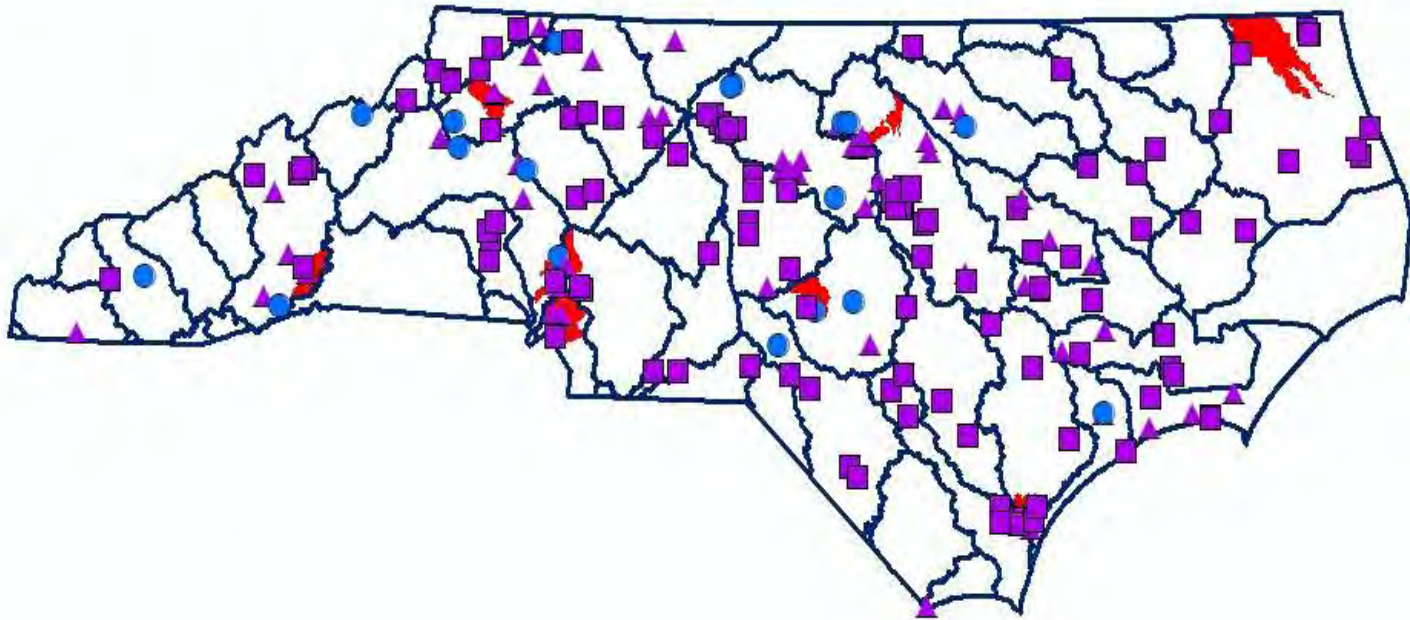
2001



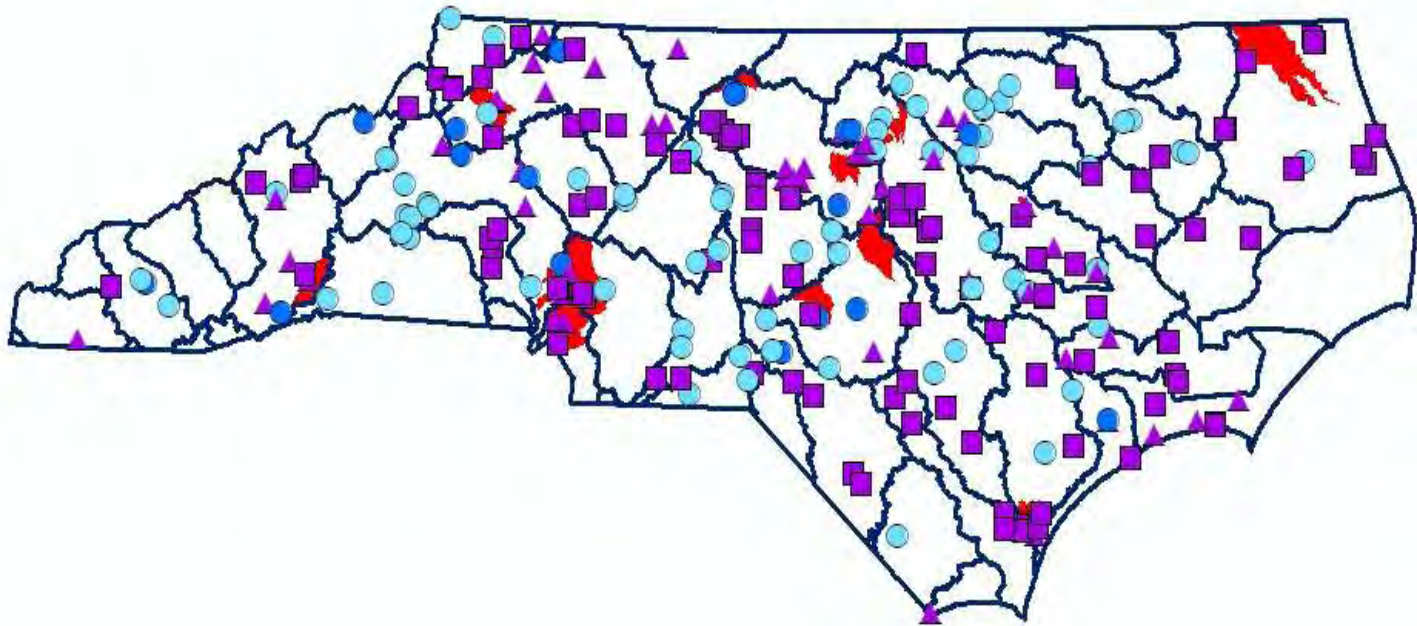
2002



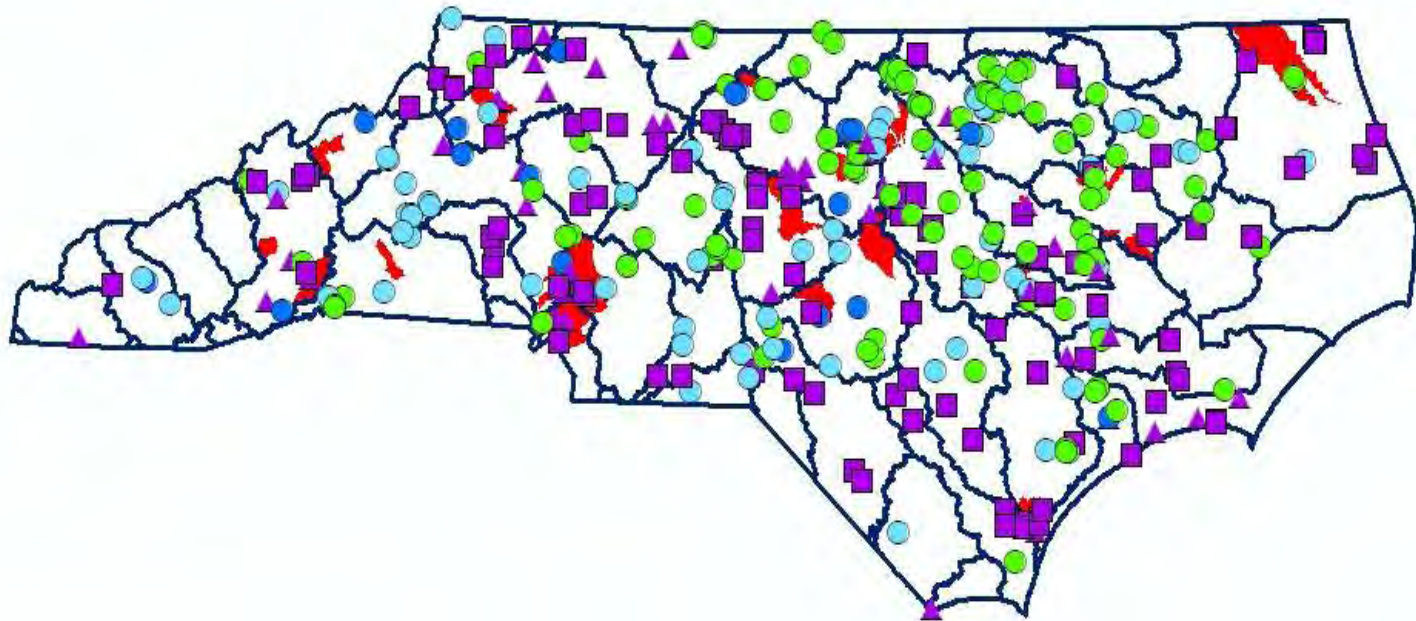
2003



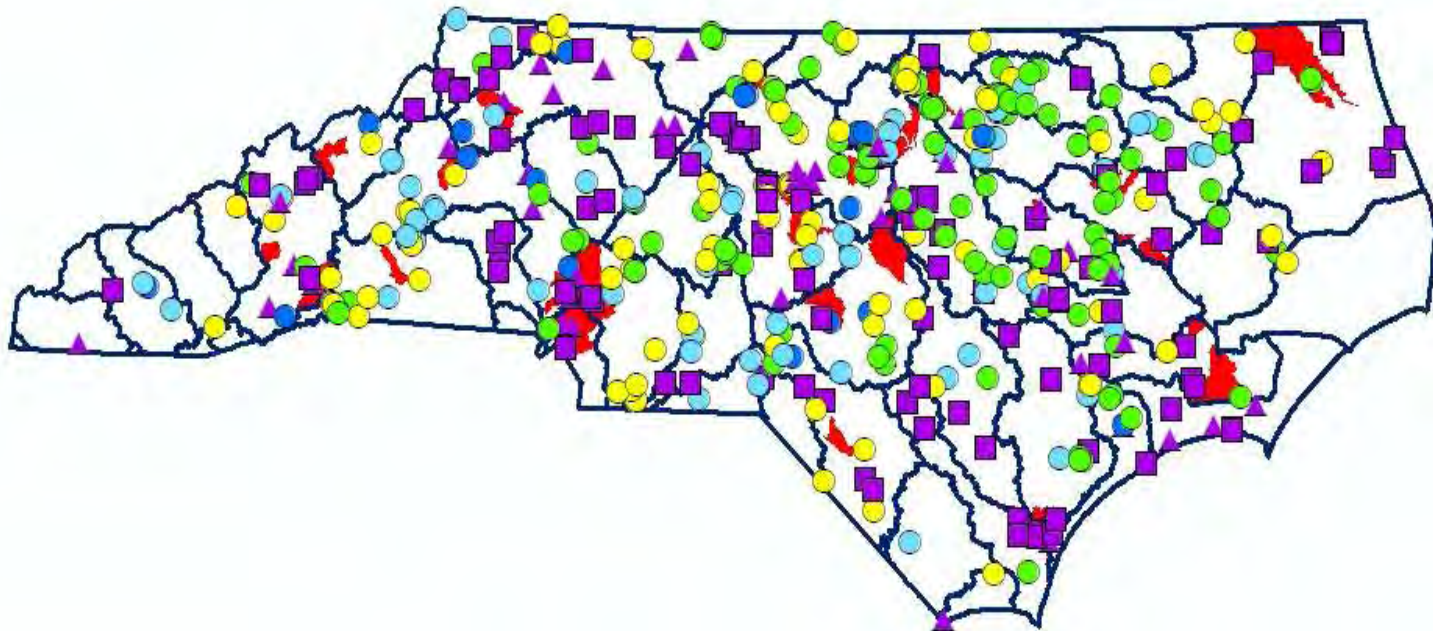
2004



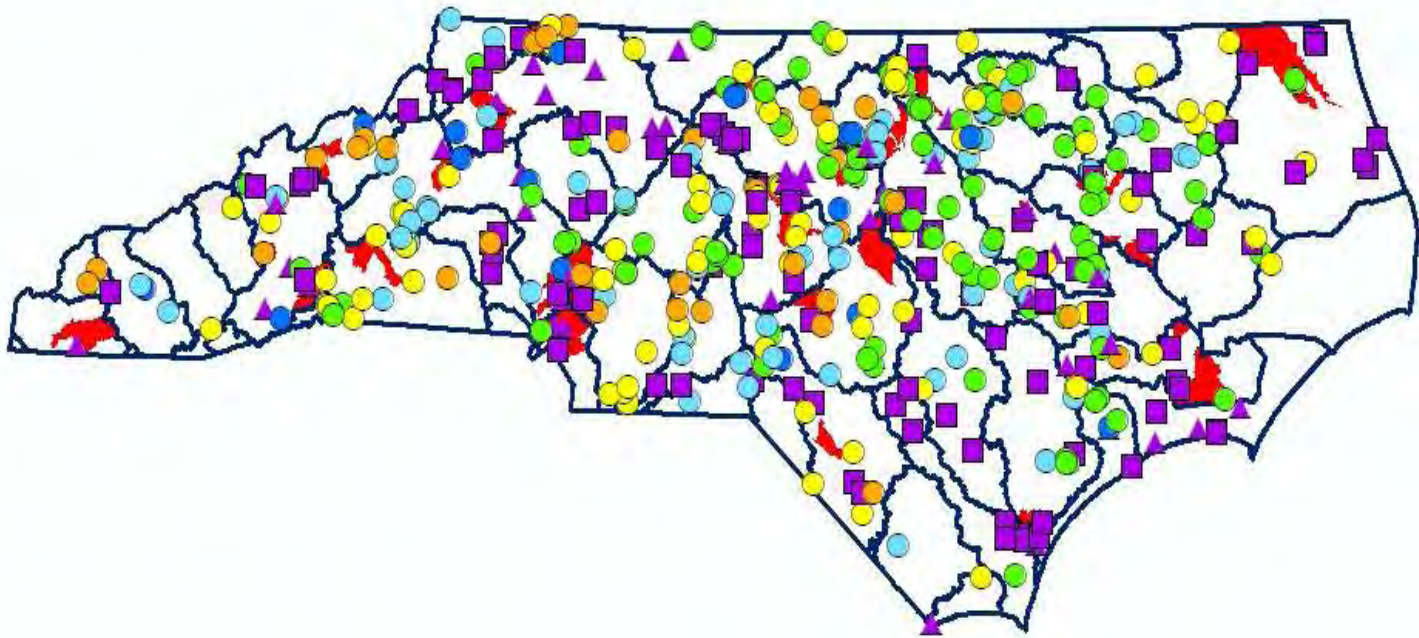
2005



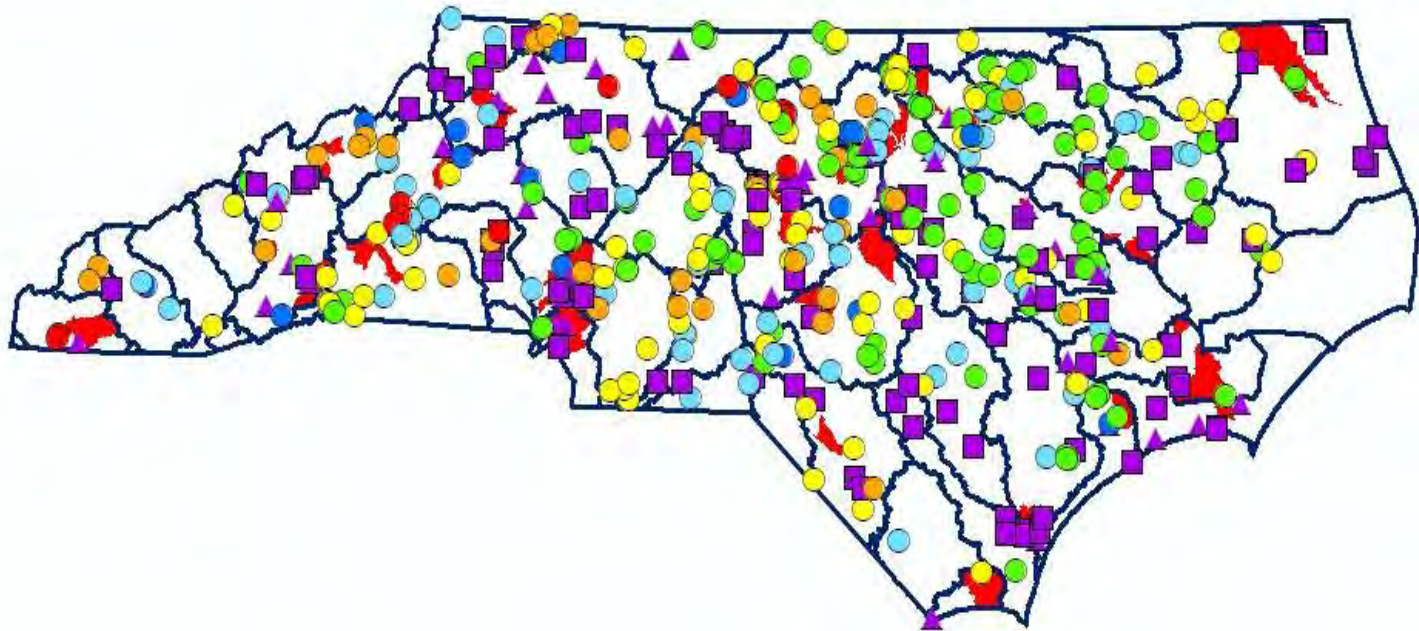
2006



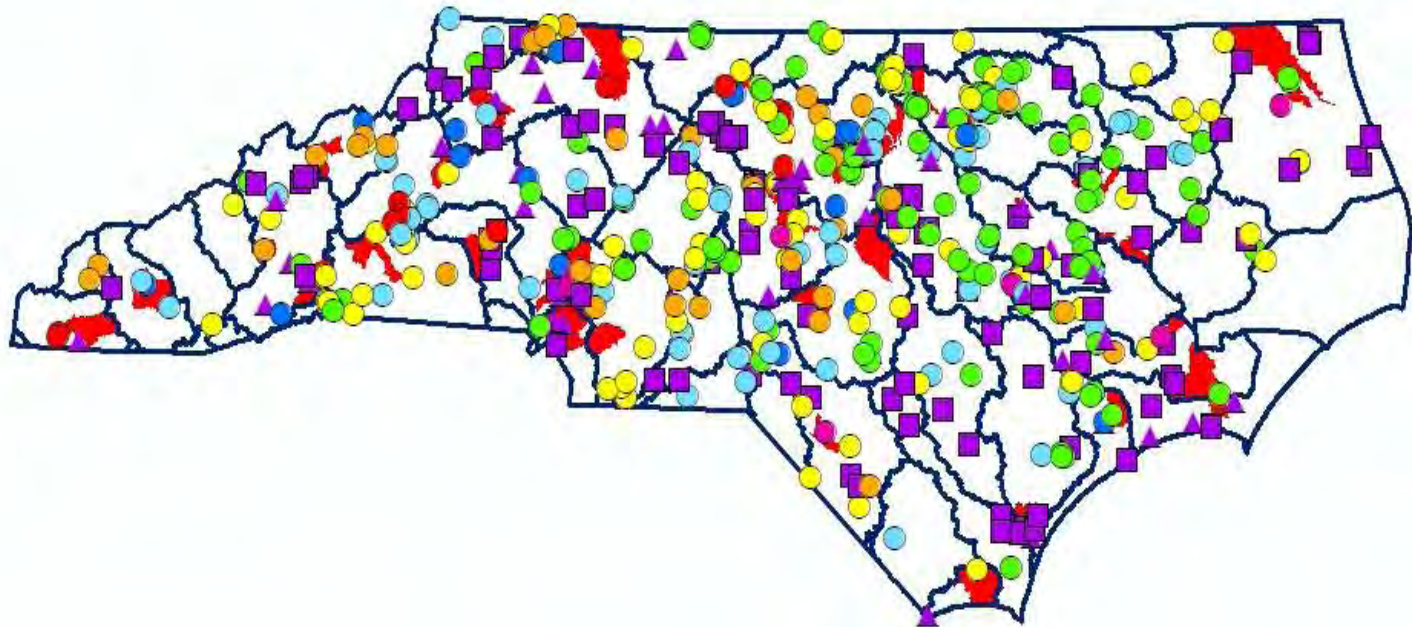
2007



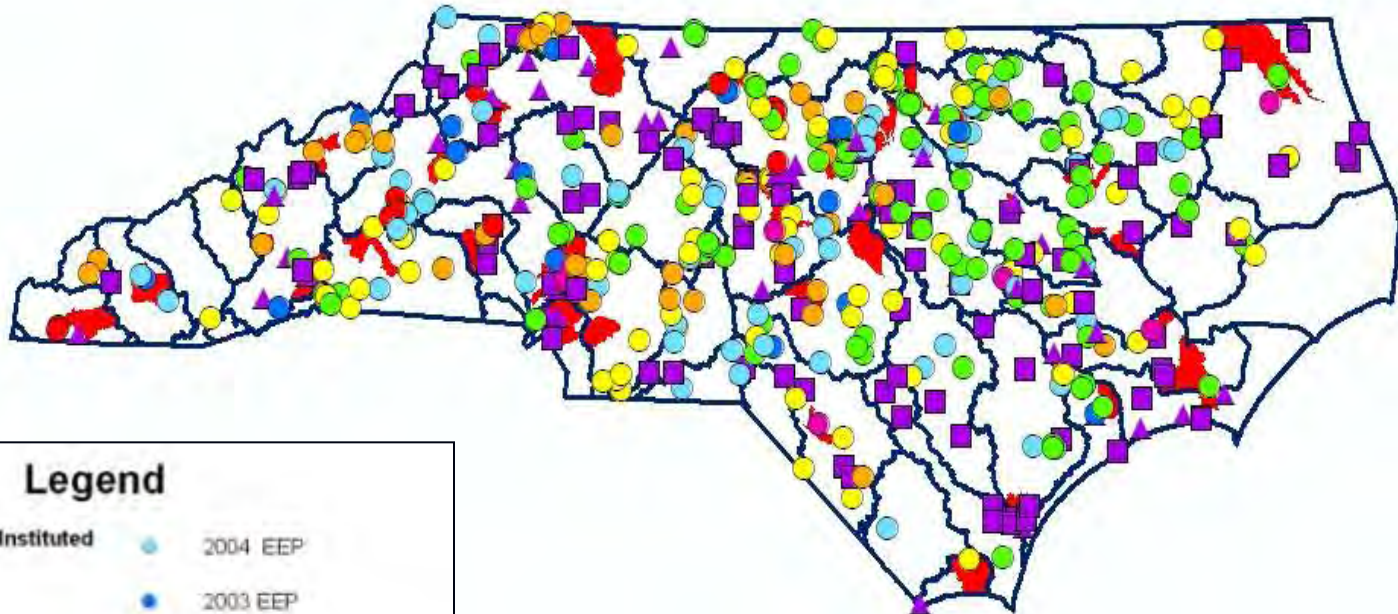
2008



2009



# 2010



## Legend

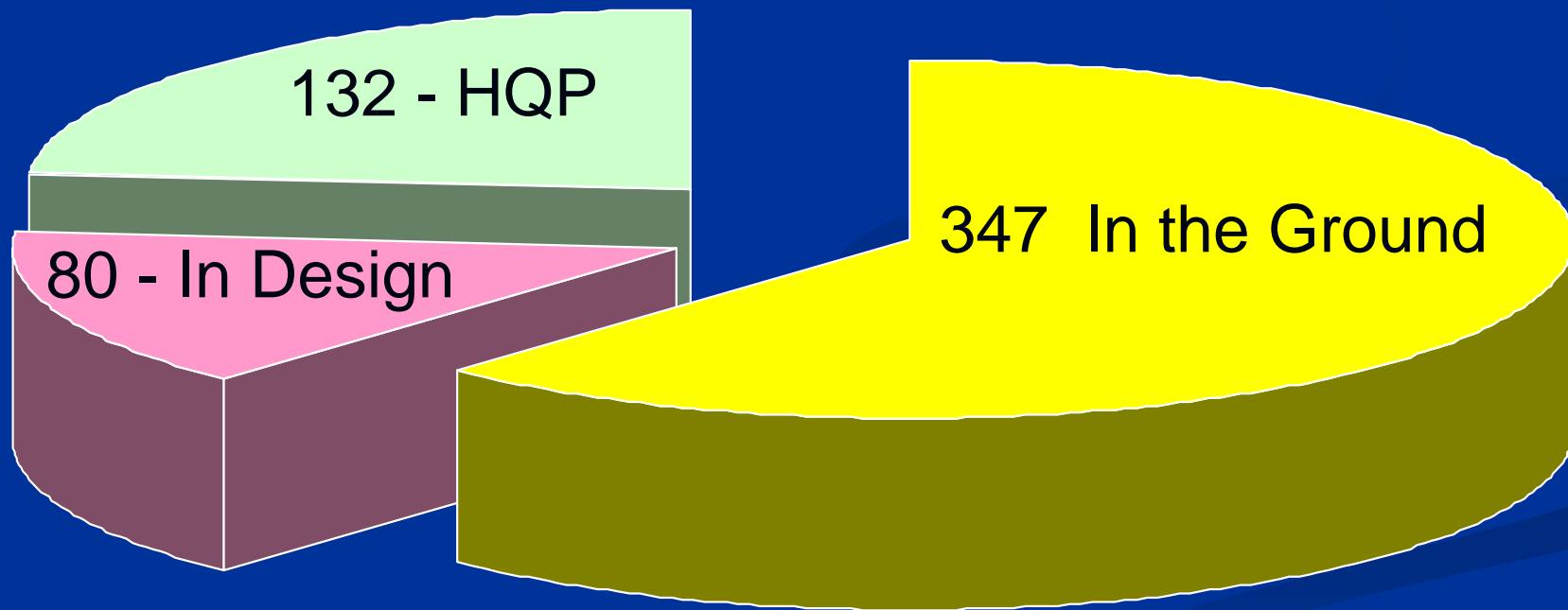
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- 2004 EEP
- 2003 EEP
- 1997-2003 DIT
- ▲ 1997-2002 WRP
- Catalog Units
- Local Watershed Plan

Projects 560

Sites tracked 1100

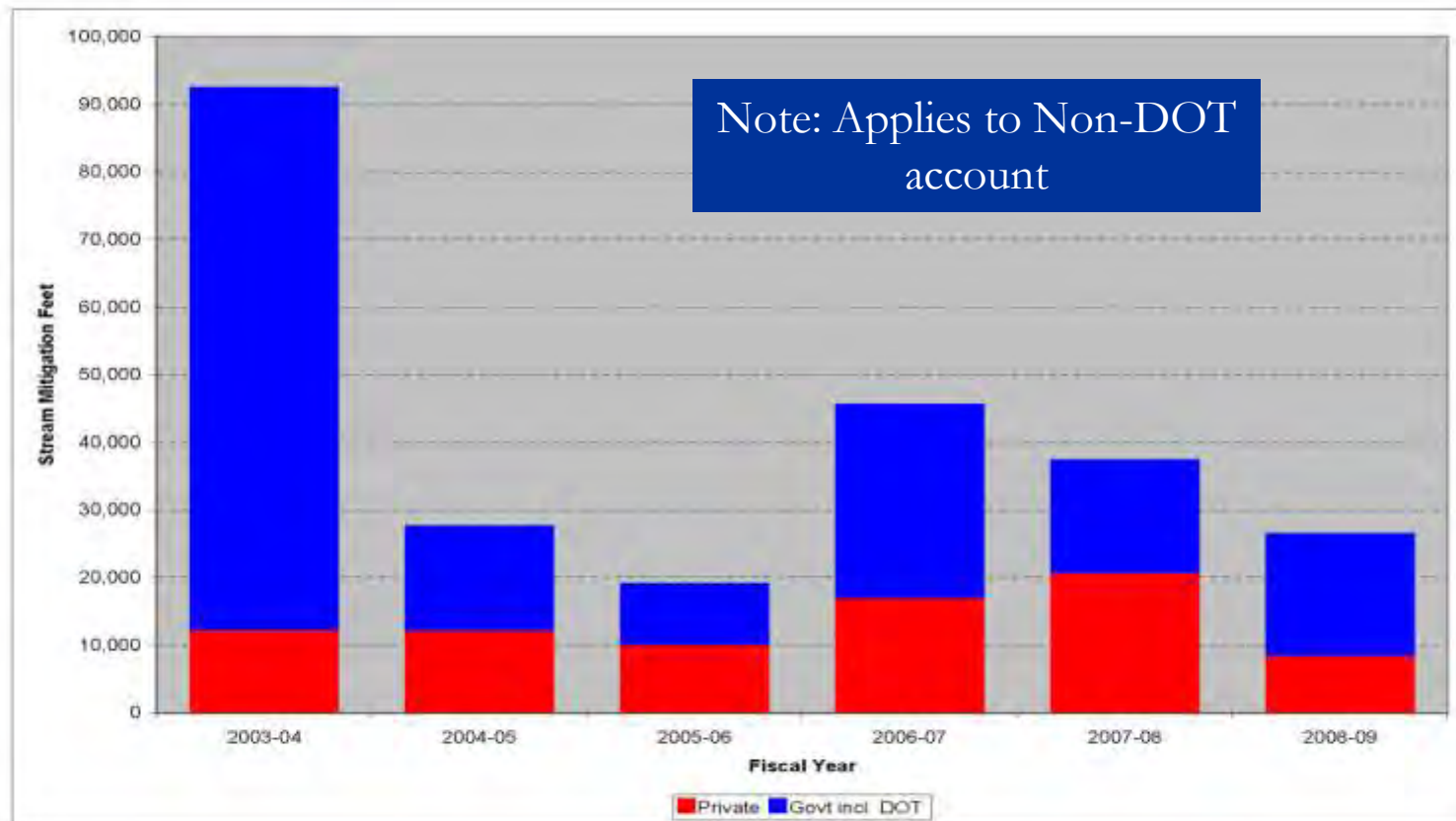
# EEP Project Status



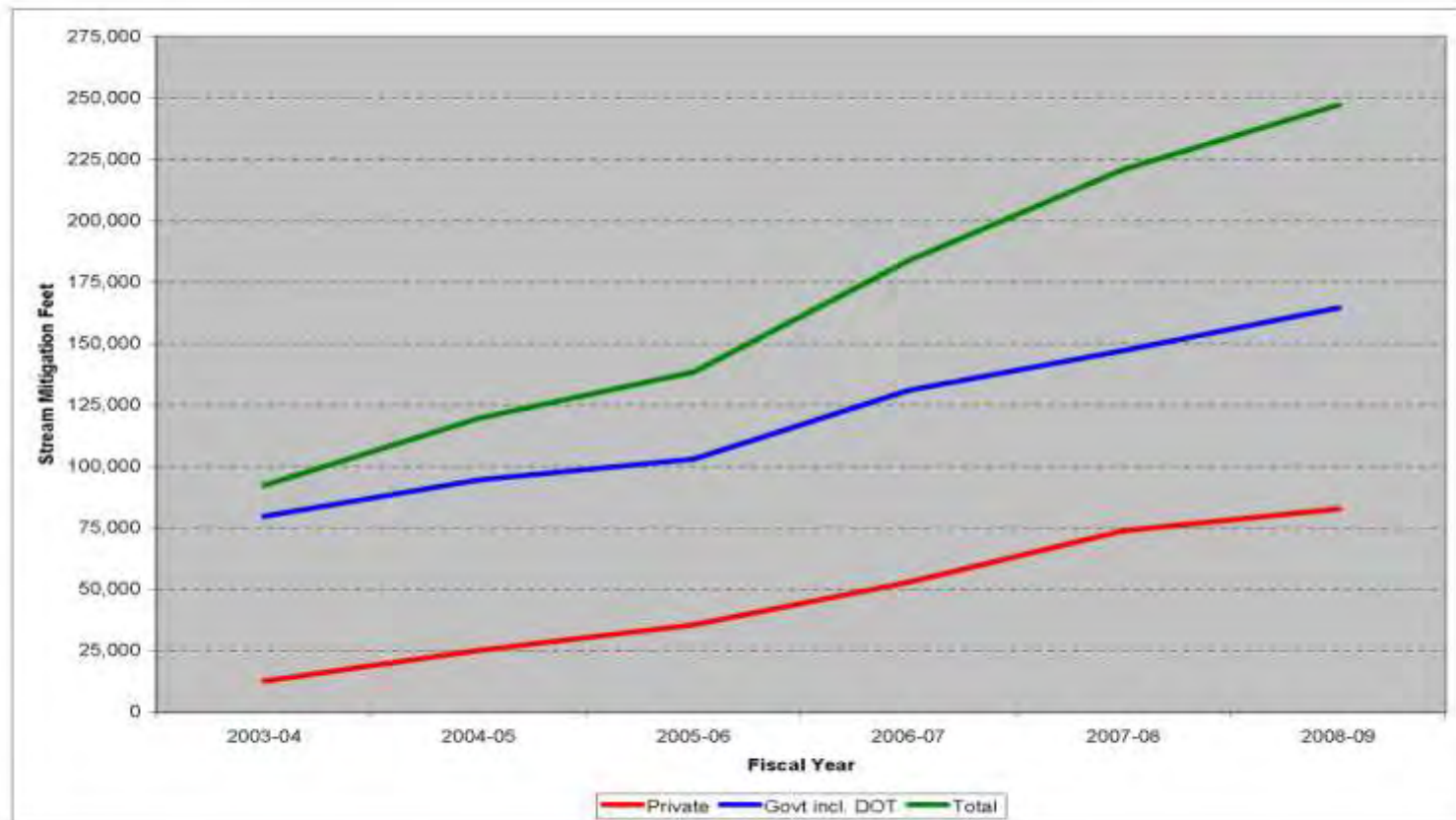
# Trends



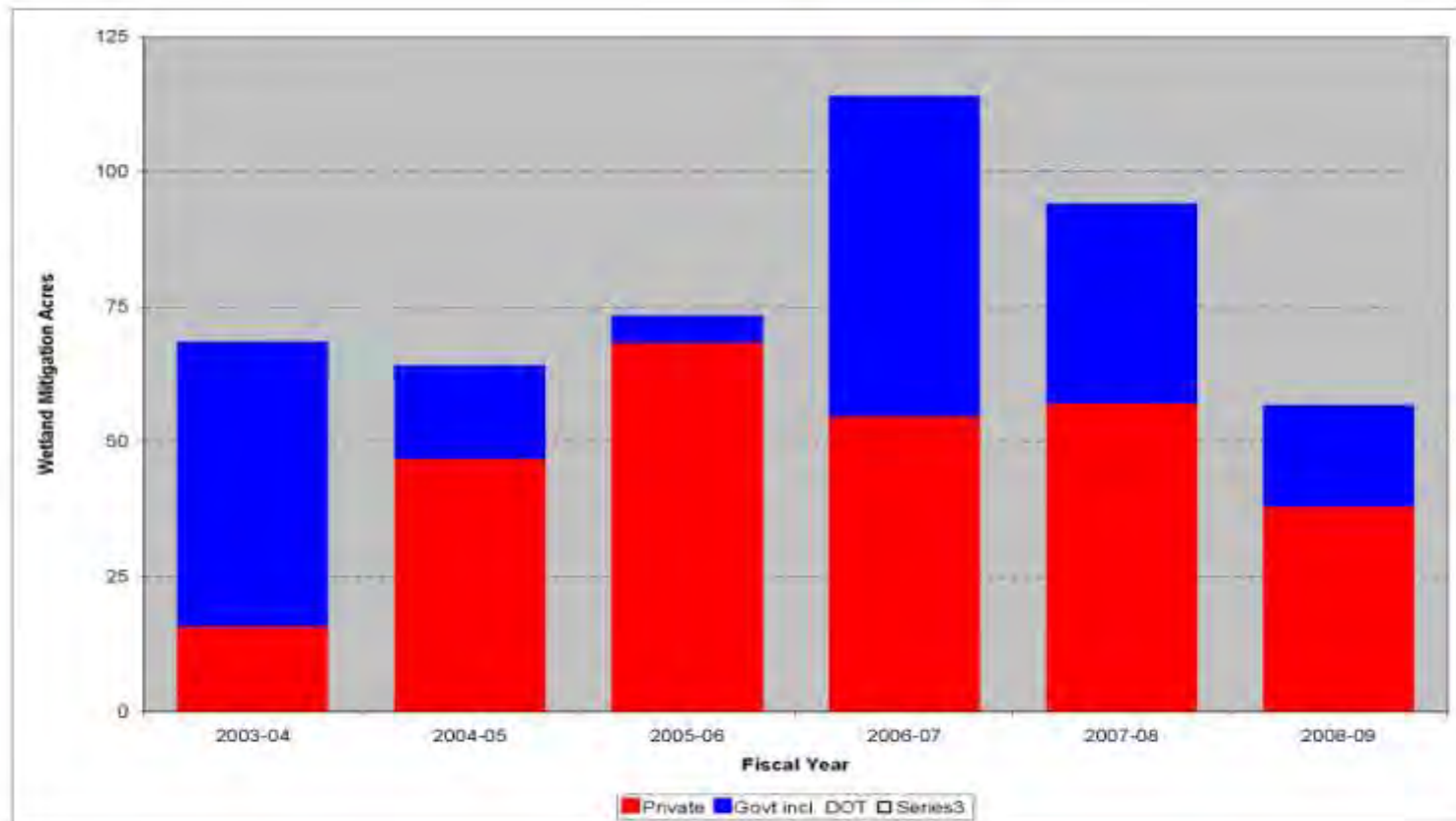
# Annual ILF Stream Mitigation Credits Paid



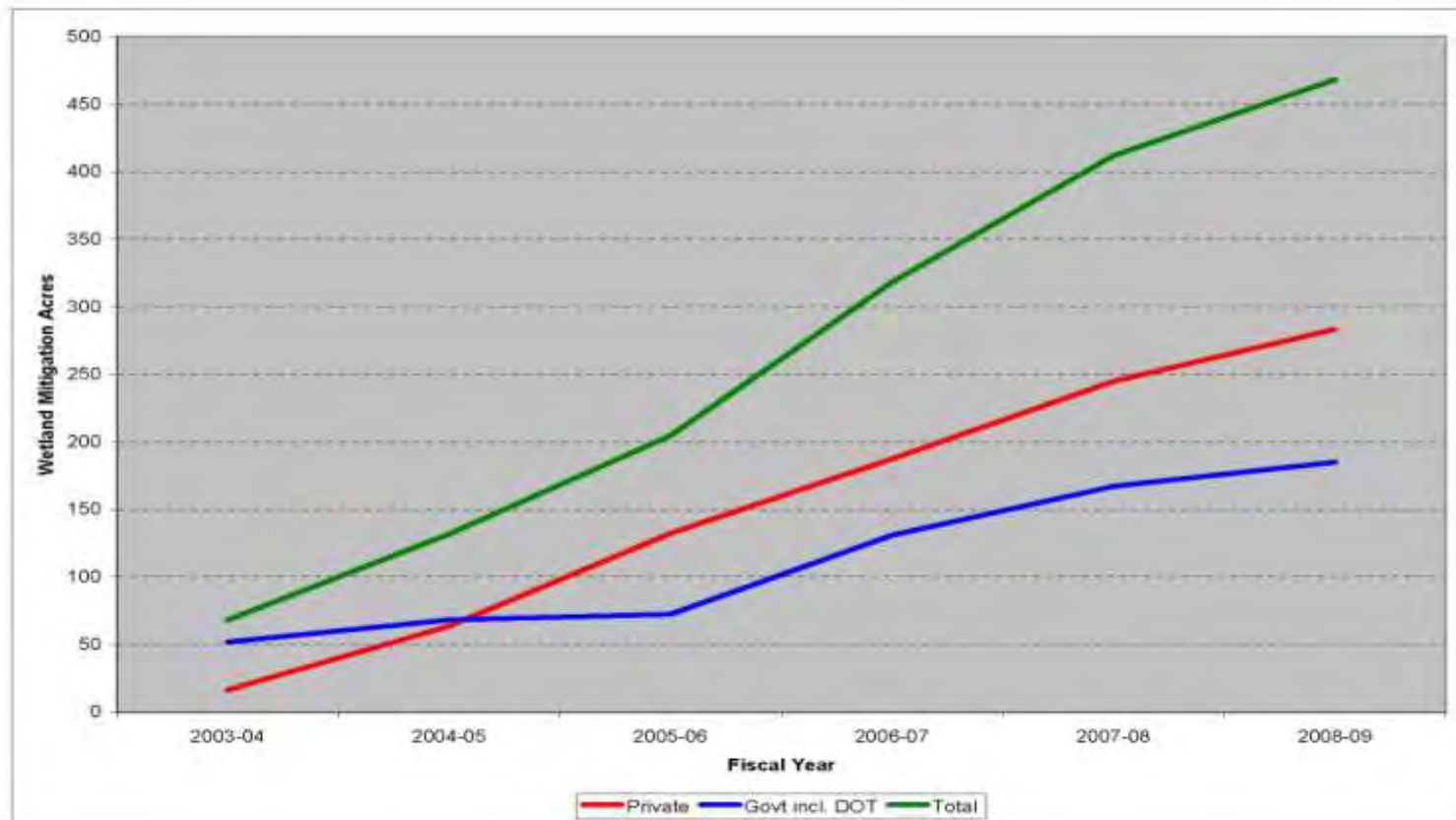
# Cumulative ILF Stream Mitigation Credits Paid



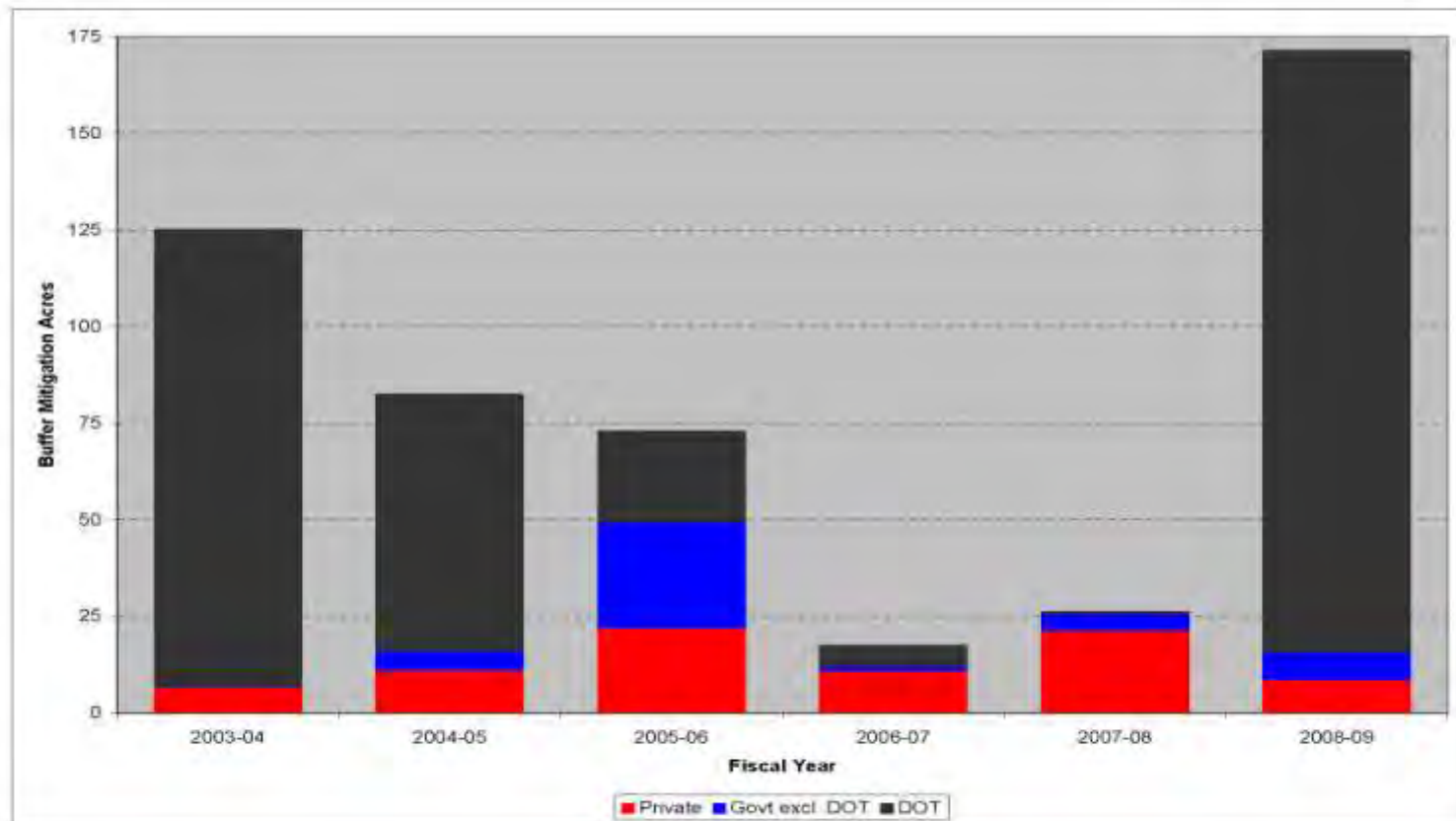
# Annual ILF Wetland Mitigation Credits Paid



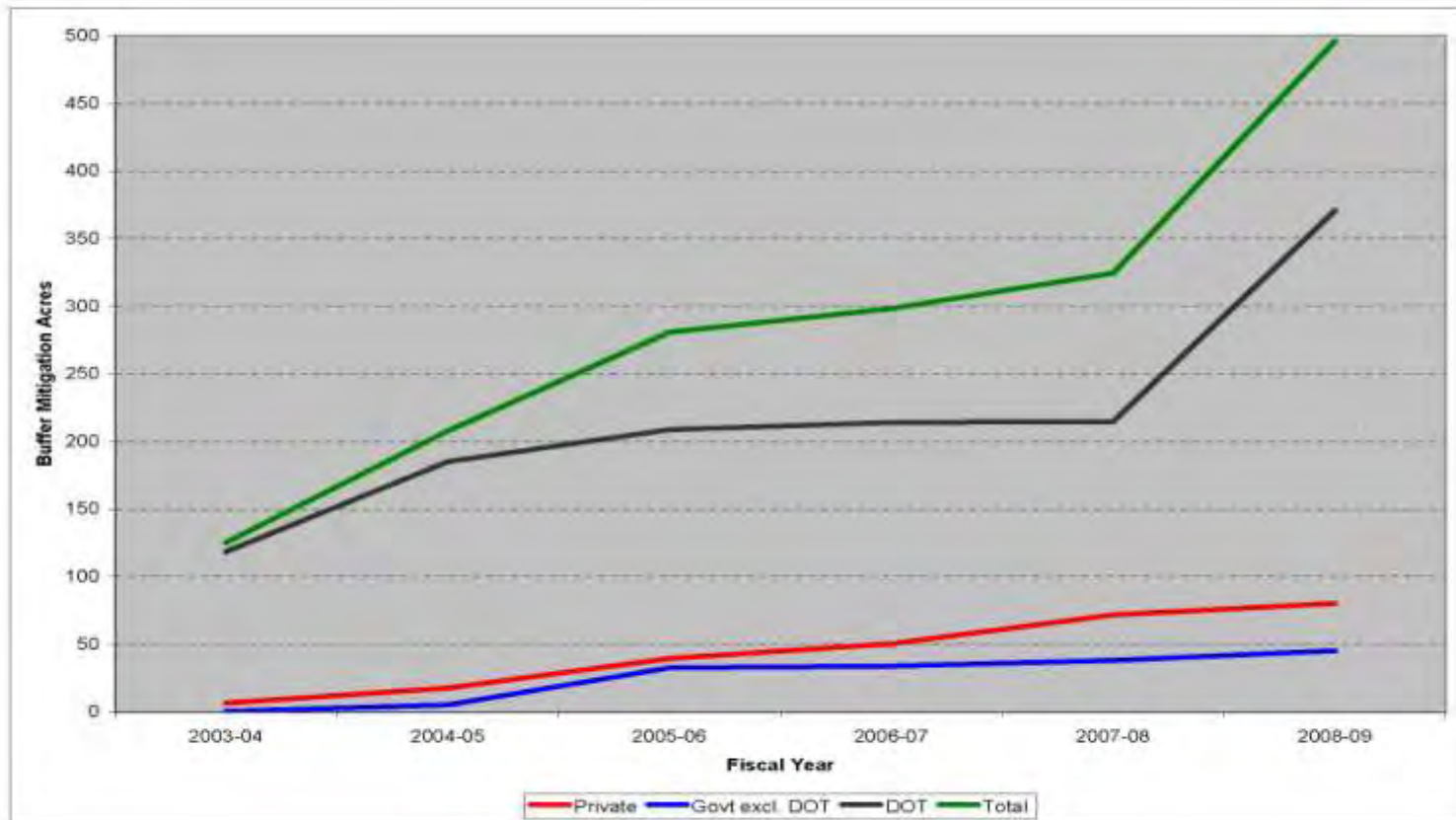
# Cumulative ILF Wetland Mitigation Credits Paid



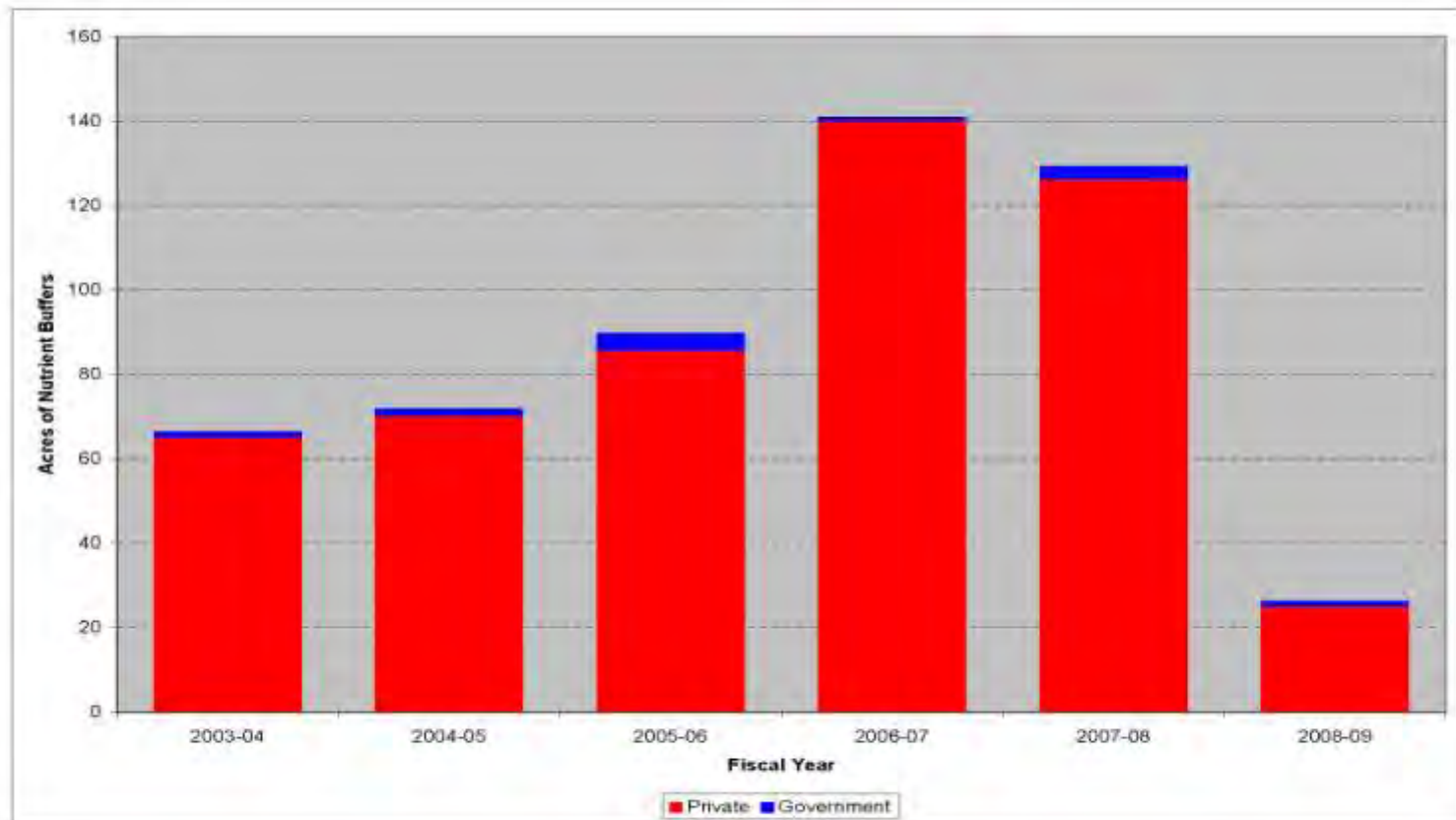
# Annual ILF Buffer Mitigation Credits Paid



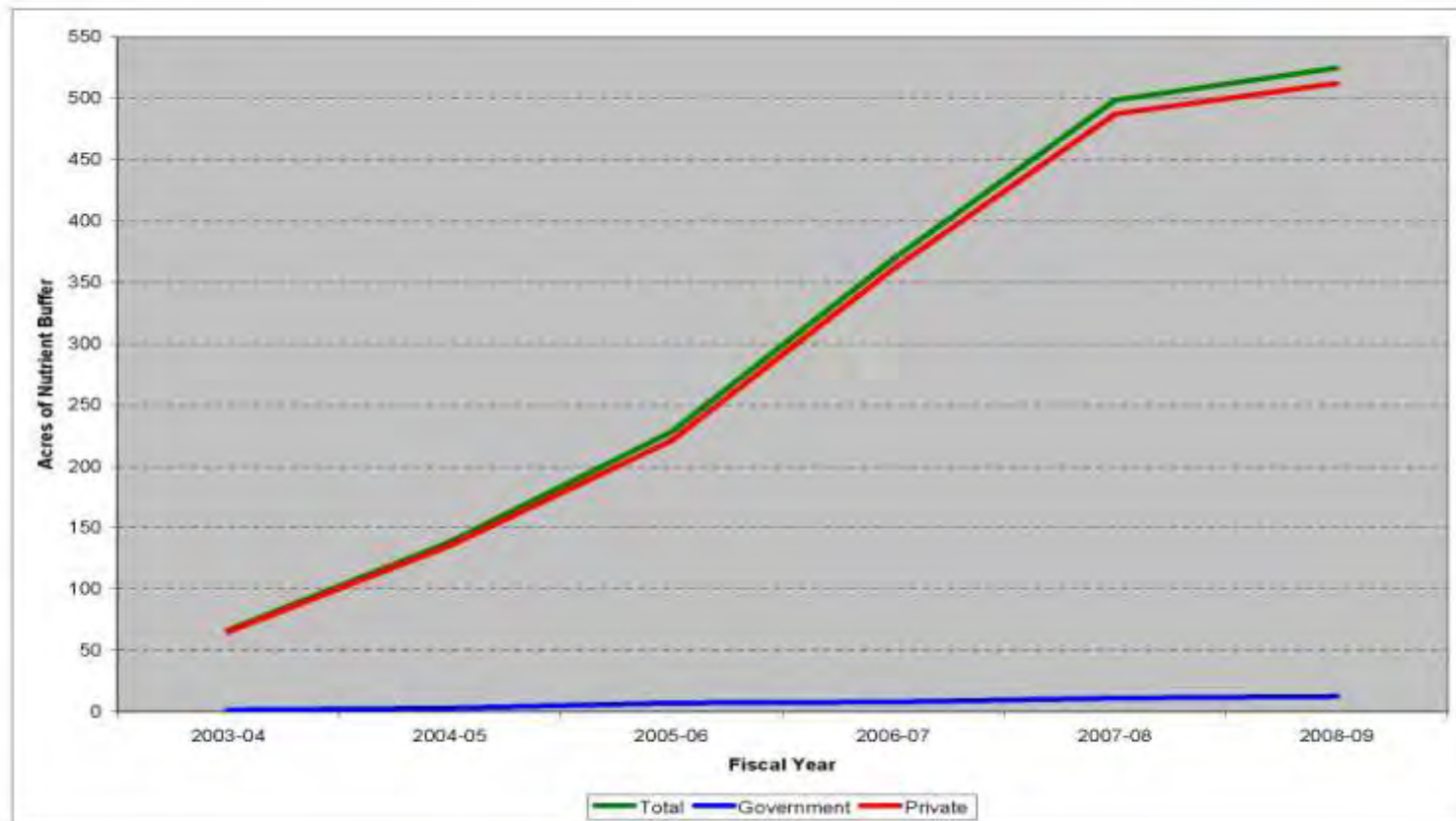
# Cumulative ILF Buffer Mitigation Credits Paid



# Annual ILF Nutrient Pounds Paid by Private



# Cumulative ILF Nutrient Pounds Paid by Private Customers



# Observations

- SL 2009-337
- Economy is down, will there be a turn?
- New rules will emerge, buffer, nutrients
- Traditional mitigation is more scarce
- Basin  $\Rightarrow 8 \Rightarrow 14$  digit  $\Rightarrow$  water supply

# Where to?

Economy

Will turn in time

NCDOT TIP  
Programming

Likely down for the  
short term

SL 2009-337 bank first

? Up or down

# Where to?

New rules, buffer,  
nutrients

Will be more controls

Location

Trending to more  
restrictive

Mitigation type (1)

More types

Mitigation type (2)

BMPs

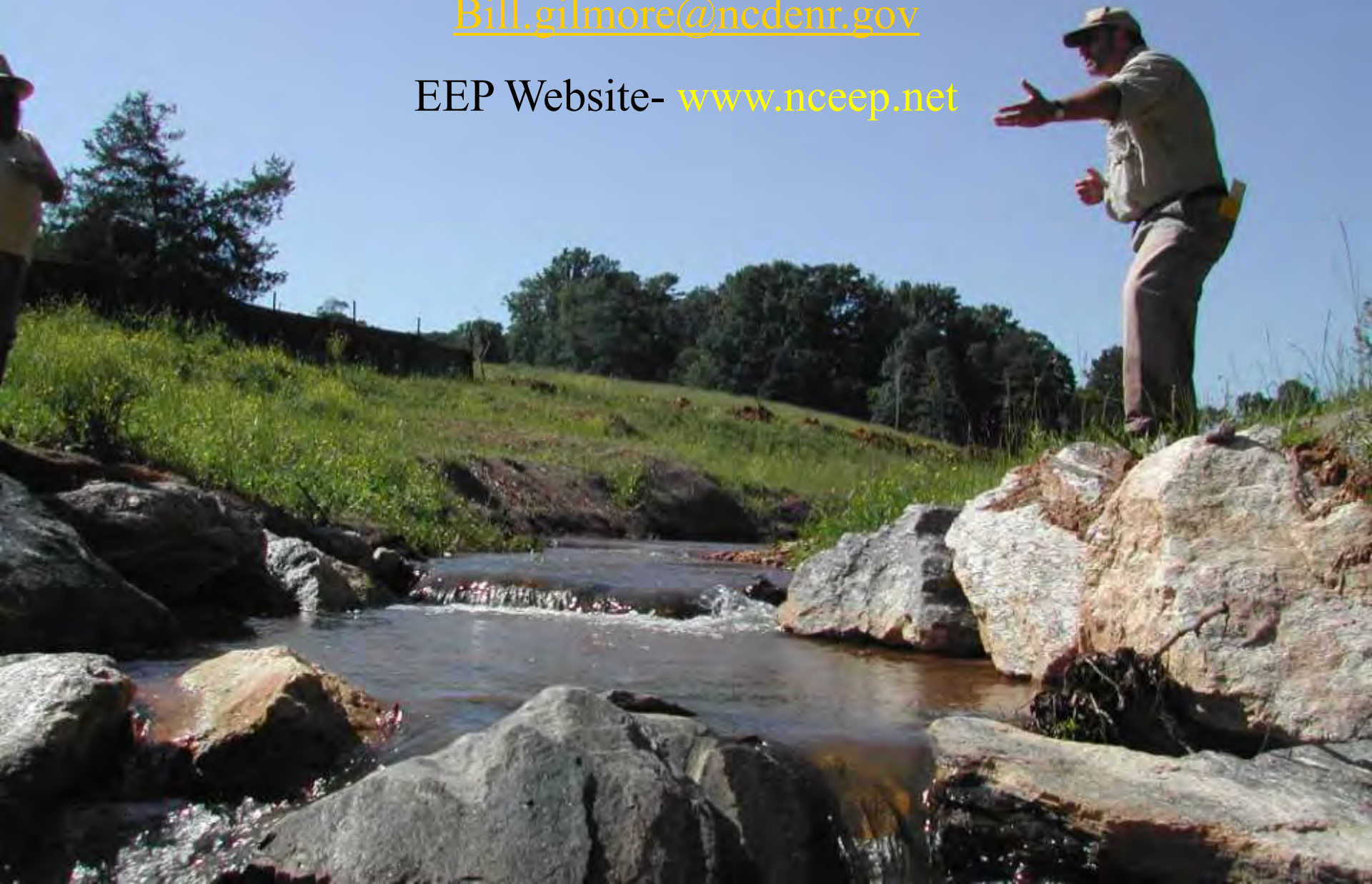
**Questions?**



William D. Gilmore, PE - Director

[Bill.gilmore@ncdenr.gov](mailto:Bill.gilmore@ncdenr.gov)

EEP Website- [www.nceep.net](http://www.nceep.net)





# N.C. Ecosystem Enhancement Program



*Restoring... Enhancing... Protecting Our State*



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Project Map and Documents



Doing Business with EEP



Components & Services



Information for Landowners

[WWW.NCEEP.NET](http://WWW.NCEEP.NET)

The N.C. Ecosystem Enhancement Program combines an existing wetlands-restoration initiative by the N.C. Department of Environment and Natural Resources with ongoing environmental efforts by the N.C. Department of Transportation. The U.S. Army Corps of Engineers joined as a sponsor in the historic agreement.

## Hot Topics

- EEP Undercurrents Online Newsletter, April 2010
- more...



# N.C. Ecosystem Enhancement Program



*Restoring... Enhancing... Protecting Our State*



## EEP WEB MAPPING SYSTEM

EEP is pleased to provide location and attribute information for our mitigation sites and planning areas as a service to the regulatory community and the public. Only sites that have been approved for mitigation by EEP's Project Review Committee are shown on our maps. Questions about a project should be directed to the project manager listed in the attributes for the project.

*Note: This Beta-test version of EEP's Web mapping system is now being distributed to a wide audience on the Web site, in part to give the application a "real-world" test, and in part to provide a preview of the next release of the system. Users should be advised that the system may tend to run slowly at times, but improvements are being sought on a continuous basis. EEP Web Maps are best viewed using Internet Explorer. Mozilla Firefox may be used, but you may have problem viewing tools and links at the top of the map in certain screen resolutions. The maps will not work in Netscape.*

- Instructions for using EEP Web map
- **NEW!** EEP Map tutorial video
- Instructions for GIS desktop users
- Access Project or Local Watershed Planning documents
- Questions about EEP Web mapping

EEP Web maps are intended to show the location of our mitigation sites and planning areas. A general point located within our project area represents the site location, not necessarily the exact stream or wetland of actual mitigation work. Easement polygons are available for some sites, but easement locations should always be verified with the county property office in which they are located. The easements shown are general locations for now. EEP is working on producing an accurate easement layer, and will add new easements and replace inaccurate easements during 2009.

First time users should please read the web mapping [instructions](#) before using the map.

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Results

Map Content Find By Name

Type in Project Name (add % at end for wildcard on partial names)

- EEP\_Mitigation
- Tr
- Hy
- EEP Projects
- Creeks
- Counties
- Watersheds
  - Cataloging Units
    - Unica Watershed (W)
    - Transboro (Lower W)
  - River Basins
    - BROAD
    - CAPE FEAR
    - CATAWBA
    - CHOWAN
    - FRENCH BROAD
    - HIWASSEE
    - LITTLE TENNESSEE
    - LUMBER
    - NEUSE
    - NEW
    - PASQUOTANK
    - ROANOKE
    - SAVANNAH
    - TAR-PAMLICO
    - WATAUGA
    - WHITE OAK
    - YADKIN
- 2008 NAIP Orthos for NC

