



# Water Efficiency & Availability Issues in NC

Environmental Review Commission  
Water & Sewer Study Group  
December 10, 2013

# The “New” Division of Water Resources (DWR)

- Consolidation of DWR & DWQ
- Responsible for:
  - Water quantity
  - Water quality
  - Public water supply
- Not responsible for:
  - Stormwater Programs (DEMLR)
  - Water & Wastewater Infrastructure Financing (DWI)

# Overview

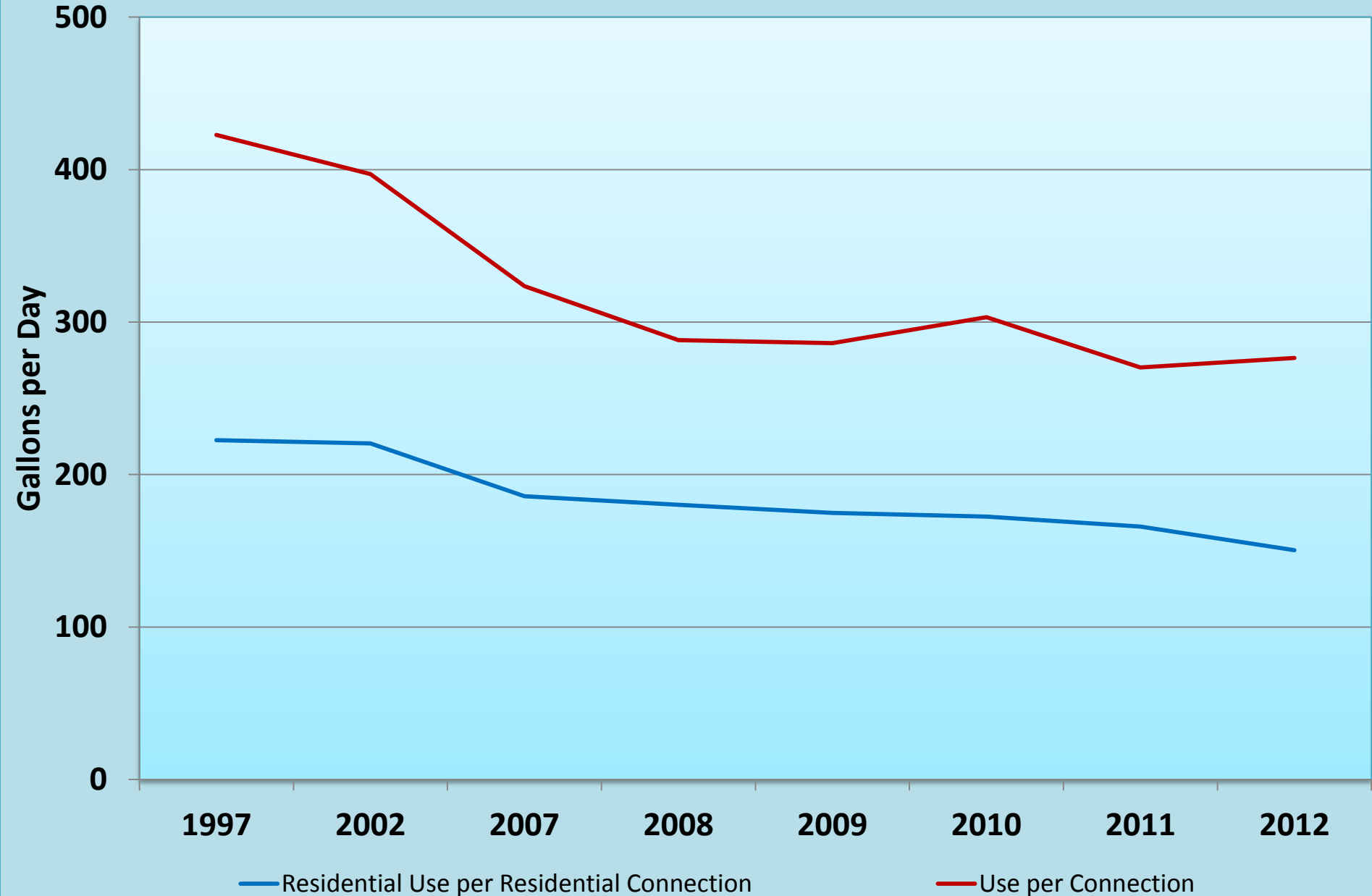
- Water Efficiency
- Water Availability
- Protection of Drinking Water Sources

# Water Efficiency

Getting maximum benefit from your  
existing water resources

# Ten Largest Public Water Systems

## Average Daily Water Use per Connection



# DWR Efficiency Activities

- Water Efficiency BMP Manual
- Water Audit Workshops
  - 6 workshops throughout NC
  - Attended by 92 water system personnel

# Water Systems in NC with > 30% Unaccounted for Water\*

- 24 systems with 31 – 50% unaccounted for water
- Reduced from 37 systems last year

\*Based on Local Water Supply Plan data

# Efficiency Recommendation for Small Systems

- Financial assistance for infrastructure
- Financial assistance to conduct professional water audits
  - American Water Works Association (AWWA) Audit
  - Improves overall system efficiency
  - Increases knowledge of system
  - Used to good effect during 2007 drought



# Water Availability

How long will the water last and how  
do you get more if you need it

# How long will the water last?

## Hydrologic Model Development Status

River Basin	Status	Type of Model
Neuse <sup>1</sup>	Completed	OASIS
Cape Fear <sup>1</sup>	Completed	OASIS
Tar-Pamlico	Completed	OASIS
Broad	Completed	OASIS
Roanoke	Underway	OASIS
Catawba	Underway	CHEOPS
Yadkin – Pee Dee	Sched. for 2014	OASIS
Lumber	Sched. for 2014	OASIS
French Broad / Watauga	Sched. For 2015	OASIS
Little Tenn. / Hiwassee	Sched. For 2015	OASIS

<sup>1</sup>Underway is an update of a combined Cape Fear Neuse model

Broad, Cape Fear, Neuse, Tar-Pam, Roanoke:  
Systems Unable to Meet **Average Daily Demand** in 2050 by  
1 MGD or Greater with Existing Infrastructure and Allocations

- Raleigh
- South Granville Water & Sewer Authority

# New Water Supply Options

Listed by Difficulty in Permitting

1. Interconnection w/ another system
  - Potential Interbasin Transfer Issues
2. Reallocation of Existing Storage
3. New ground water well field
4. Quarry with High Flow Skimming
5. Surface Water Intake
6. Non-mainstem (Offline) Reservoir
7. New Mainstem Reservoir

# What can the State do to help?

## DWR Assistance to Water Systems Under HB 609

Water System	Type of Water Supply Project
Cape Fear Public Utility Authority & Lower Cape Fear Water & Sewer Auth.	Unknown. Additional water needed to meet maximum day demands.
Raleigh	Reallocation of Falls Lake
Greenville Utilities	Surface water intake / modeling
Cleveland County	New reservoir on First Broad
Moore County	Surface water intake/Existing reservoir
Marshall	New groundwater wells
Louisburg	Expand existing facility
Union County	Surface water intake / IBT

# Recommendation for Water Availability

- Affects small & large systems similarly
  - The scale is different
- Facilitate interconnections when feasible
  - Financial incentives
  - Facilitate non-controversial IBTs (SL 2013-388)
  - Brunswick County IBT Approved Nov 2013
  - Cary: Ongoing

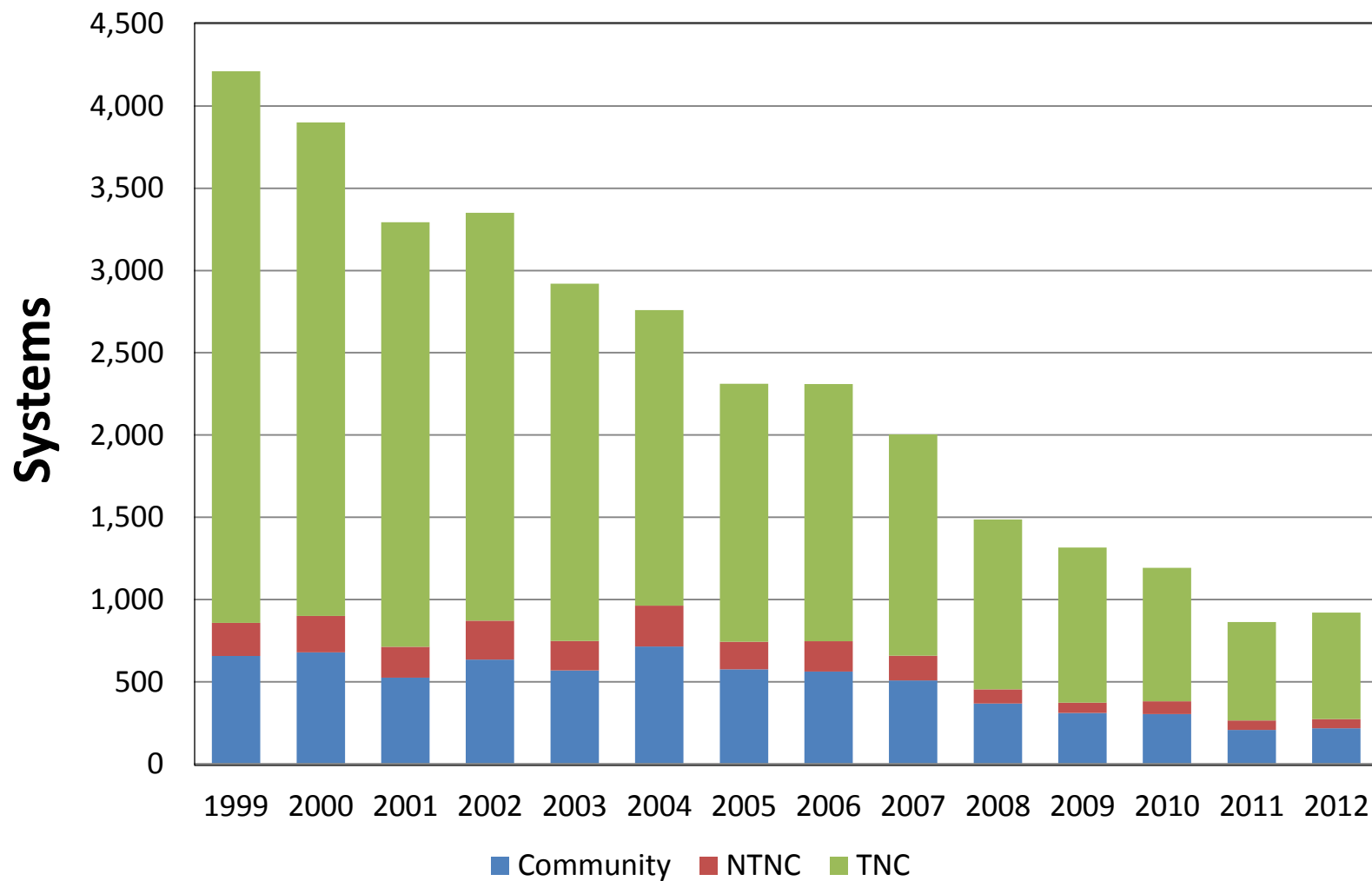
# Protection of Existing Public Water Supplies

# Public Water Supply Section Assistance

- Provides on-site technical and regulatory assistance  
(ex) over 4,700 site visits last year
- Conducts training to improve system compliance rates  
(ex) approx. 6,000 training contact hours per year
- Coordinates professional certification for more than 15,000 water and wastewater operators  
(ex) approx. 4,700 approved courses for continuing ed.
- Develops voluntary programs to support local drinking water protection  
(ex) protection plans for sources that provide water for over a million consumers



# Number of Water Systems with Monitoring Violations: 1999-2012



# Contact Information

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