

# MERCURY TMDL UPDATE

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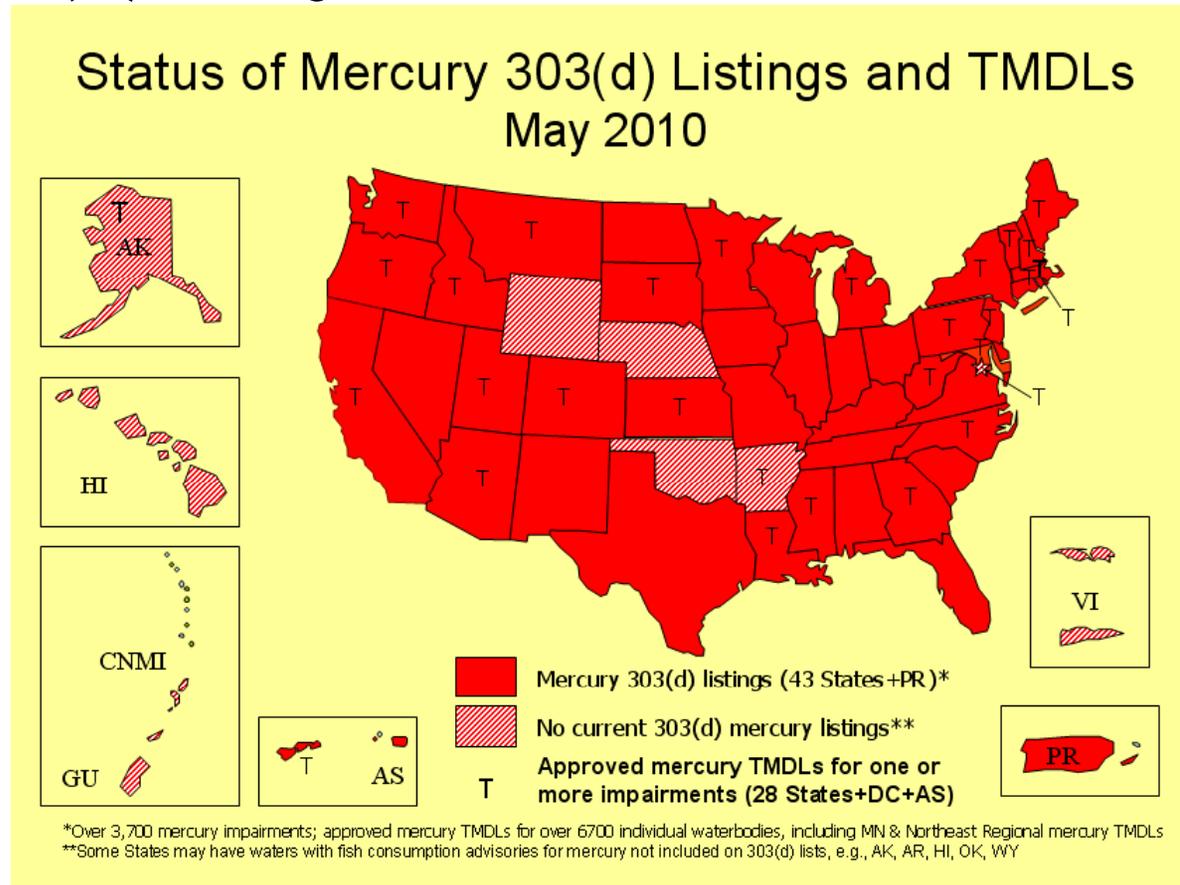
Sheila Holman, DAQ

# Outline

- **NC Statewide Mercury TMDL**
  - **Background**
  - **Process**
  - **Timeline**
  
- **Clean Water Act Section 319(g) Conference**
  - **Overview and Summary**
  - **NC Mercury Reductions**
  - **Next Steps**

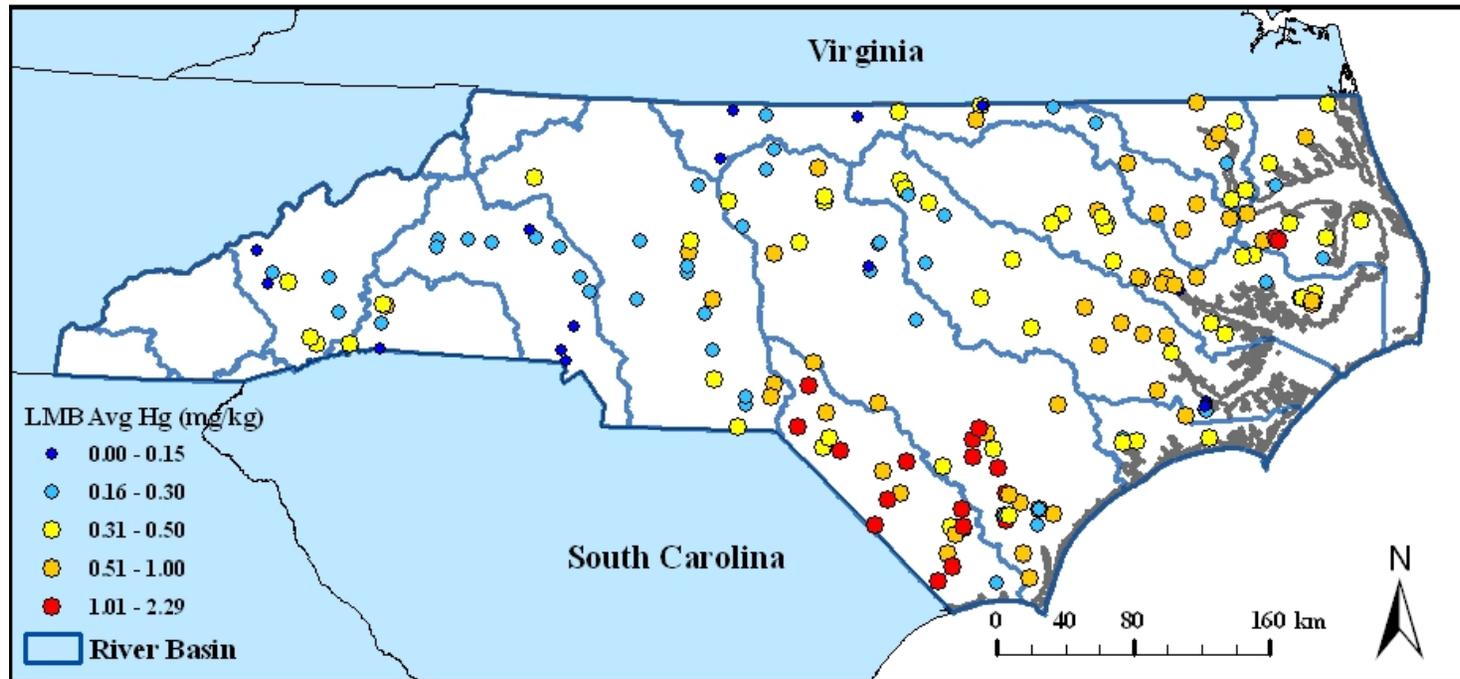
# Mercury TMDL Background

- ❑ Statewide *fish consumption advisory* – DHHS
- ❑ Advisory = 303(d) listing
- ❑ *We are not alone...*



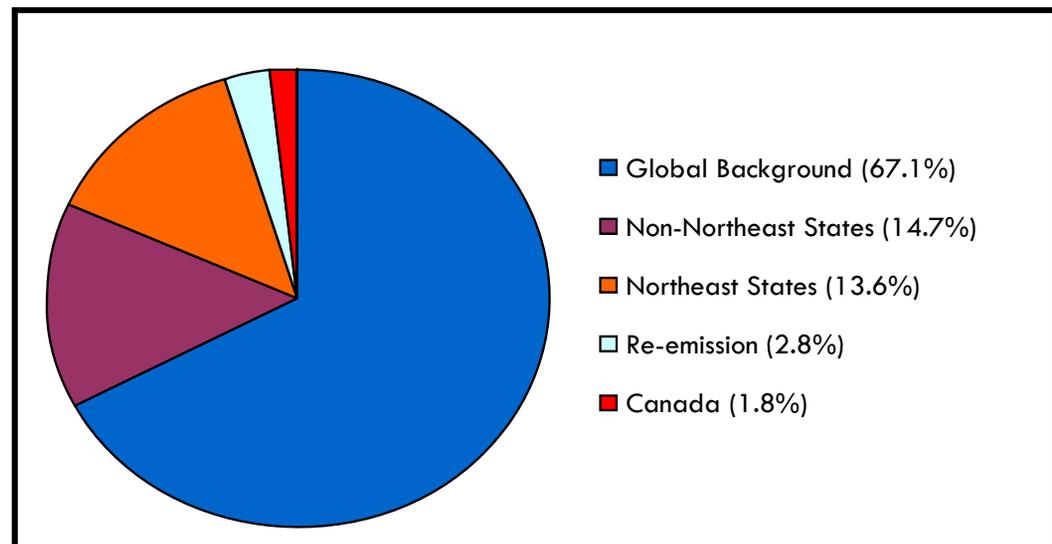
# Mercury TMDL Background

- Methyl – Hg
  - ✓ Low pH
  - ✓ High organic matter



# Mercury TMDL Background

- Sources of mercury in fish
  - Wastewater discharges (~1-5%)
  - Atmospheric deposition (~95-99%)
    - Global -- Hg can be transported for long distances
    - Coal-fired power plants largest US & NC air emission source



# Mercury TMDL Process



- Typical TMDL
  1. Compile **water** data
  2. Select and calibrate **water** model
  3. Determine **water** source (point & nonpoint) reductions needed
  
- Statewide Mercury TMDL
  1. Compile data
    - **fish** tissue, water, **air** emissions and deposition
  2. Use **air** model to quantify in-state and out-of-state contributions
  3. Determine reductions needed
    - water point sources, in-state **air**, out-of-state **air**

# Mercury TMDL Process



- TMDL requirements
  - ▣ Public comment
  - ▣ EPA approval
  - ▣ (Implementation plan not required by EPA)
- Enhancements
  - ▣ Public meetings and other outreach
  - ▣ Implementation plan
  - ▣ TMDL effort will inform 2012 report
    - 02D .2509: DAQ report to EMC on mercury emissions

# Mercury TMDL Timeline

Date	Action	Who's Responsible?	Status
Throughout the process – at least quarterly	EPA stays Informed <i>Website updates</i>	DWQ	Website update completed for quarter First EPA Water/Air call completed
May 2010	Wasteload Analysis Meeting	DWQ – modelers & permitting	Completed
	DWQ website updated with process information	DWQ	Completed
	Air quality modeling protocol development meeting	DAQ/DWQ	Completed
June 2010	Meeting with Directors	Team	Completed
	Fish tissue analysis, target selection	DWQ	Tentatively completed
July 2010	Meet w/ DHHS to go over this action plan	DWQ	Completed

# Mercury TMDL Timeline

Date	Action	Who's Responsible?
September 2010	Information Item on EMC agenda	DAQ/DWQ
October 2010	Water column mercury methylation analysis	DWQ
	Wasteload analysis	DWQ
December 2010	Air quality modeling completed	DAQ w/ DWQ & EPA
February 2011	Analyze all results – including in-state and out-of-state Make adjustments as appropriate	DAQ/DWQ
March 2011	EMC information item	DAQ/DWQ
April 2011	Public meeting(s)	DAQ/DWQ, DHHS
<b>May 2011</b>	<b>Draft TMDL complete</b>	DWQ



# Mercury TMDL Timeline

Date	Action	Who's Responsible?
May-June 2011	Internal review	DAQ/DWQ
June-July 2011	TMDL public comment period	DWQ
June 2011	Public meeting(s)	DAQ/DWQ, DHHS
September 2011	Final TMDL complete	DWQ
September 2011	TMDL submitted to EPA	DWQ
<b>October 2011</b>	<b>TMDL approved</b>	EPA
<b>December 2011</b>	<b>Draft implementation plan complete</b>	DAQ/DWQ
January 2012	Debrief; set milestones to evaluate plan progress; develop additional goal(s)	DAQ/DWQ, DHHS, EPA

# Mercury TMDL Outreach

- DWQ and DAQ spreading the word
  - ▣ ~250 individuals informed so far
  - ▣ Mercury TMDL web page
  - ▣ <http://portal.ncdenr.org/web/wq/ps/mtu/tmdl/tmdls/mercury>
- EMC information items
  - ▣ Today
  - ▣ March 2011
- Two public meetings planned
  - ▣ Before and during TMDL comment period

# Clean Water Act

## Section 319(g) Mercury Conference



- ❑ **Northeast States petition**

- ❑ **Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont**

- ❑ **319(g) requires that EPA convene a management conference of all States contributing significant nonpoint source pollution to the petitioning States' waters**

- ❑ **The contributors...**

**PA, NJ OH, WV, MD, MI, VA, IN, KY, NC, IL**

# Clean Water Act

## Section 319(g) Mercury Conference

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- ❑ States highlighted significant mercury emissions reductions already underway
- ❑ States identified key areas for further action at the state and national levels
- ❑ Named States expressed significant concern whether the NE States' reduction target is achievable
- ❑ Named States expressed concern that dated emissions inventories were used in the NE study

# Clean Water Act

## Section 319(g) Mercury Conference

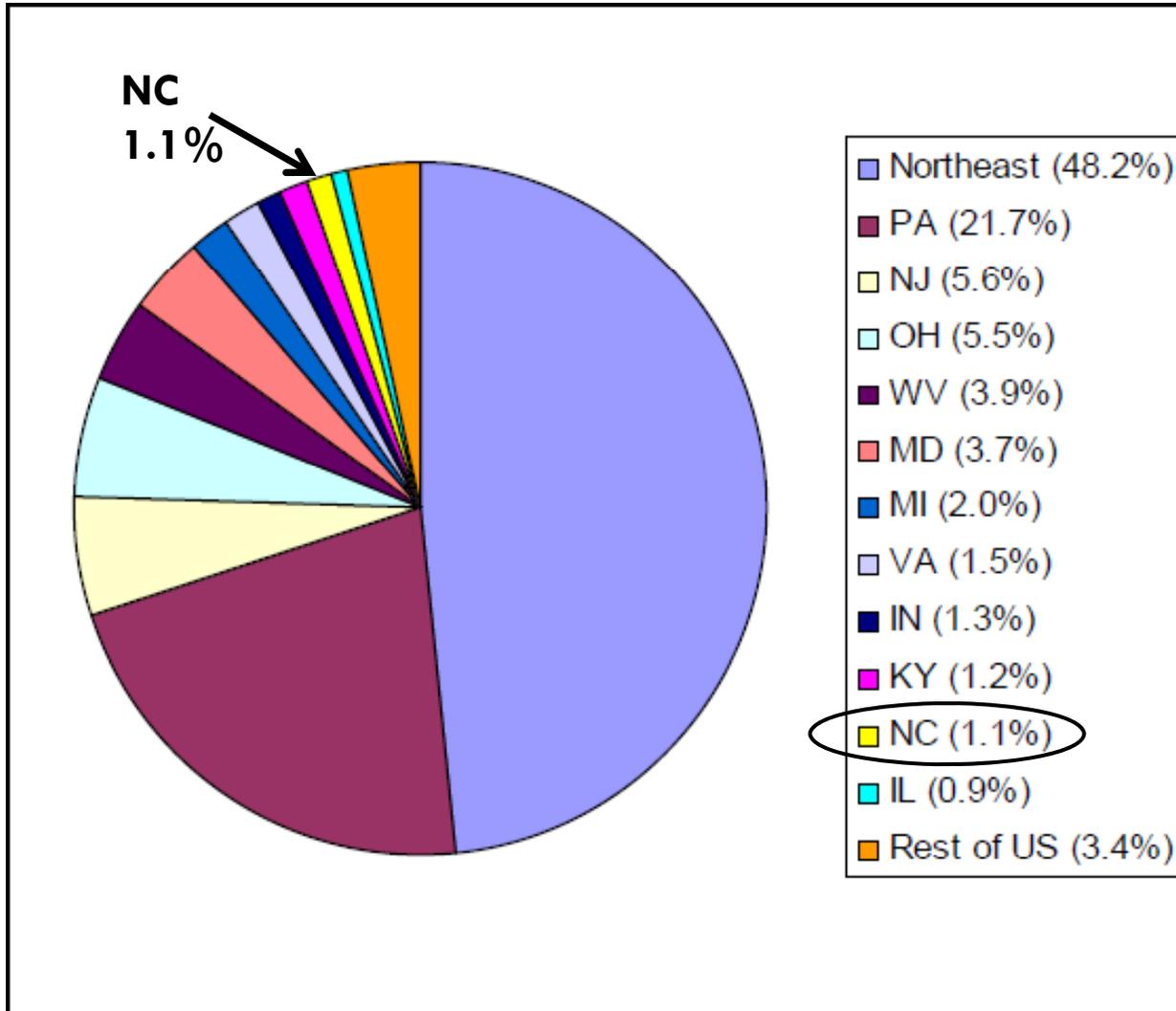
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### **According to the NE States:**

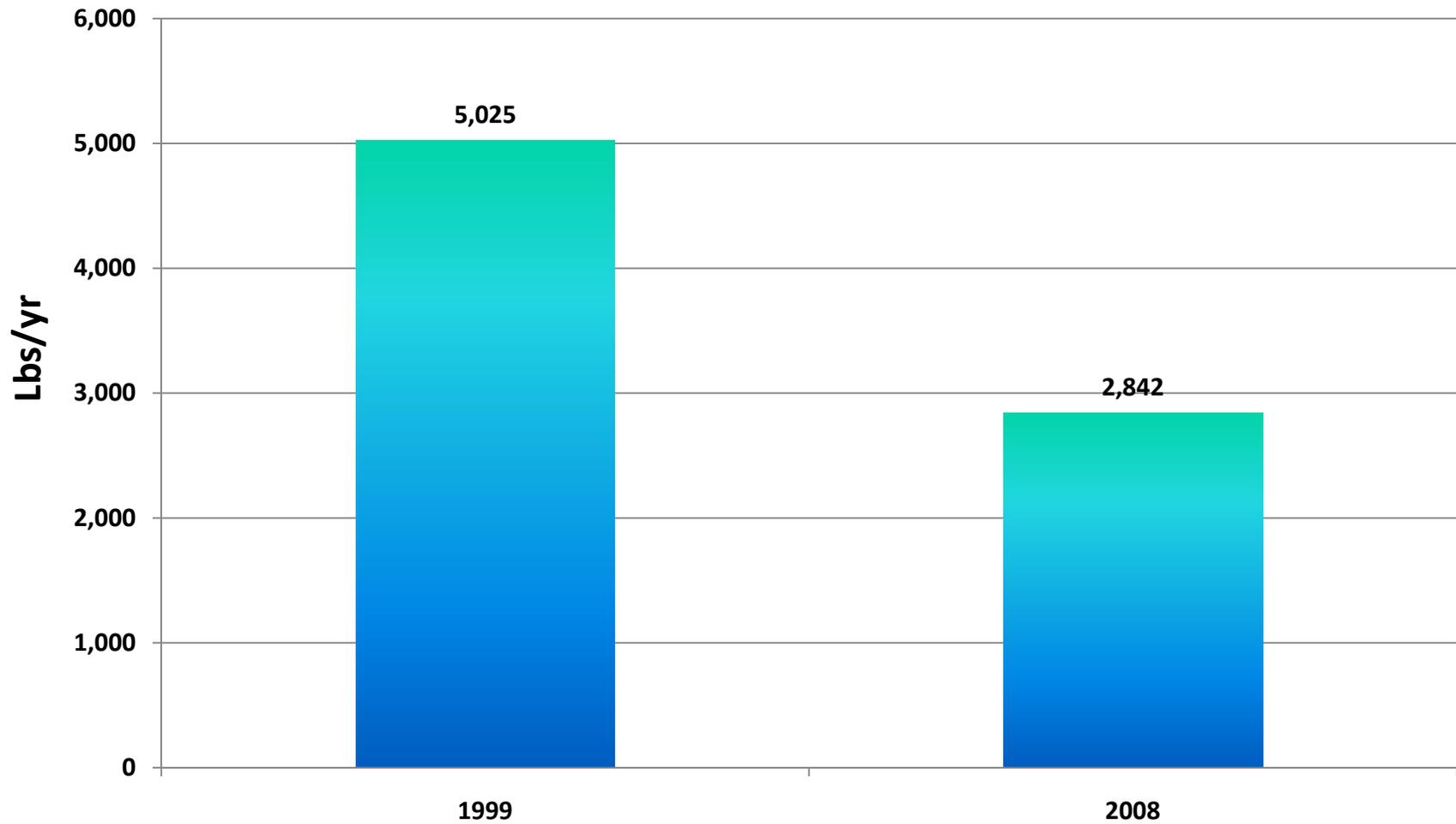
- ~30% of atmospheric Hg deposition in the NE comes from US sources**
- ~49% of the US portion of the atmospheric deposition in the NE originates from outside the NE region**
- Contributions based upon pre-Clean Smokestacks Act emissions (1999 & 2001)**

# Clean Water Act

## Section 319(g) Mercury Conference



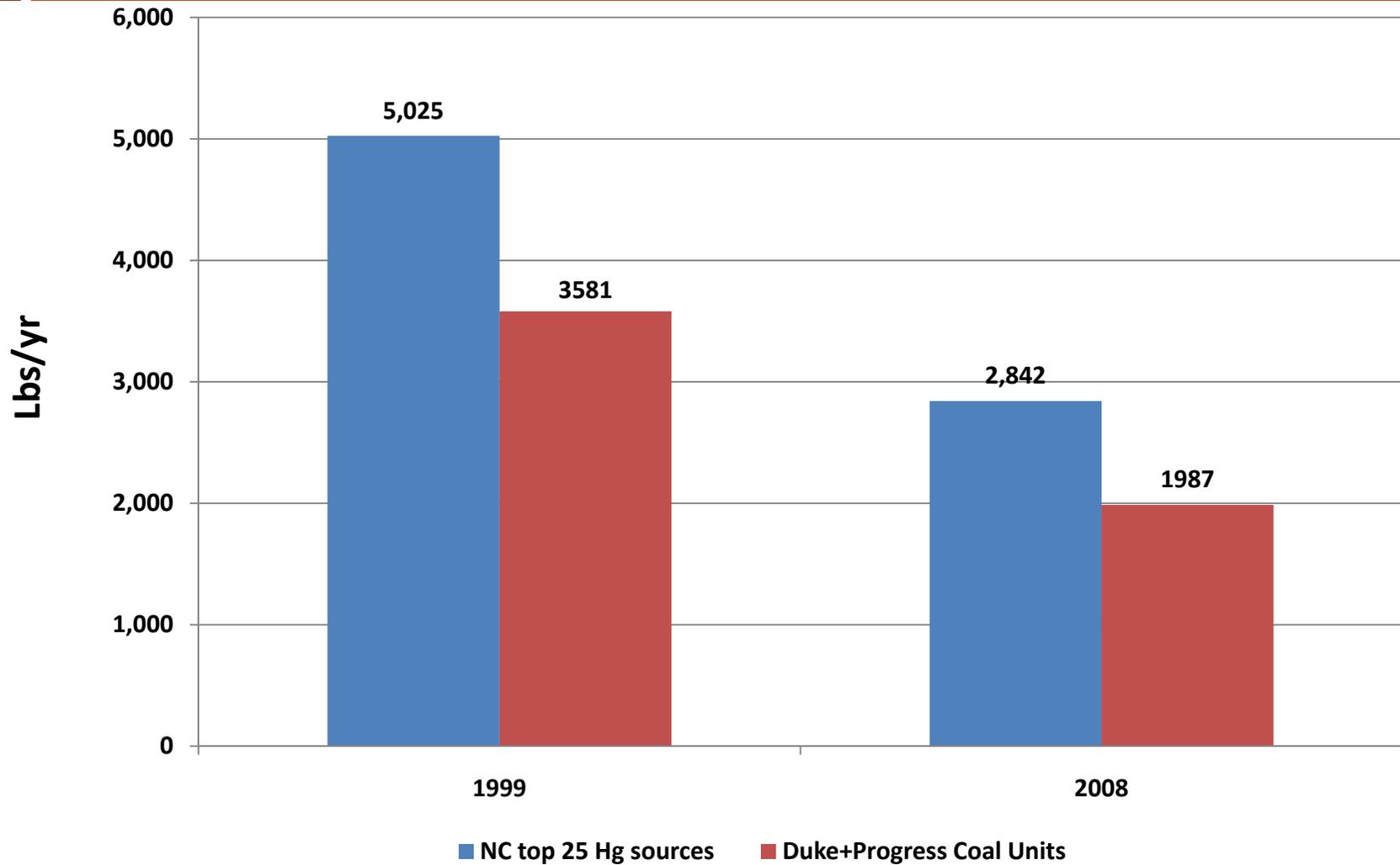
# Sum of mercury air emissions from NC's top 25 mercury sources (pounds), 1999 & 2008



# NC top 25 Mercury Sources

vs.

# Hg Emissions from Coal-fired EGUs in NC



# Future Mercury Emissions in NC

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- **Additional mercury emissions reductions are expected in NC due to:**
  - **Additional controls on some coal-fired EGUs**
  - **Replacement of coal-fired EGUs with natural gas units**
  - **Retirement of some coal-fired EGUs**
  - **New incinerator rules**
  - **Upcoming boiler rules**
    - **(Boiler MACT and Utility MACT)**

# Clean Water Act

## Section 319(g) Mercury Conference

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### **Outcomes and Next Steps:**

- ❑ National Hg reduction strategy is needed... it must address the non-US contributions
- ❑ Dialogue among states should continue
- ❑ Development of an outcomes document for states review and *potential* agreement
- ❑ Press release and meeting summary will be generated

# Mercury TMDL Questions ?

