PUBLIC INFORMATION

ITEM NO. 3.

DATE OF MEETING: April 4, 2011

REQUESTED BY: Laura Boothe, NC Division of Air Quality

SHORT TITLE: Presentation Regarding Proposed EPA Sulfur Dioxide Standards

BACKGROUND: The US Environmental Protection Agency (EPA) is revising the primary standard for sulfur dioxide, and the one monitoring station located in the region, in New Hanover County (in the industrial corridor) already far exceeds the new standard. Thus, New Hanover County, and potentially areas of Pender and Brunswick counties, will likely be designated within a non-attainment boundary that will be designated by EPA. The State (through the Governor) will be making boundary recommendations to EPA by June 2, 2011, however EPA has the final determination as to the boundaries to be established. The proposed final EPA determination date is June, 2012. Designation as non-attainment has impacts related to economic development, industrial development and recruitment, transportation planning, existing industrial development expansion, and others. Even if Pender County is not included in the non-attainment boundary, the designation will likely have impacts for recruitment of industry to Pender Commerce Park, which is located adjacent to the New Hanover county line and the area where much industry and higher levels of measured sulfur dioxide already exist.

Sulfur Dioxide Standard

January 12, 2011

Sulfur Dioxide (SO_2)

June 2010 - New scientific studies provide stronger evidence for link between short-term SO_2 exposures, ranging from 5 minutes to 24 hours, and adverse respiratory outcomes.

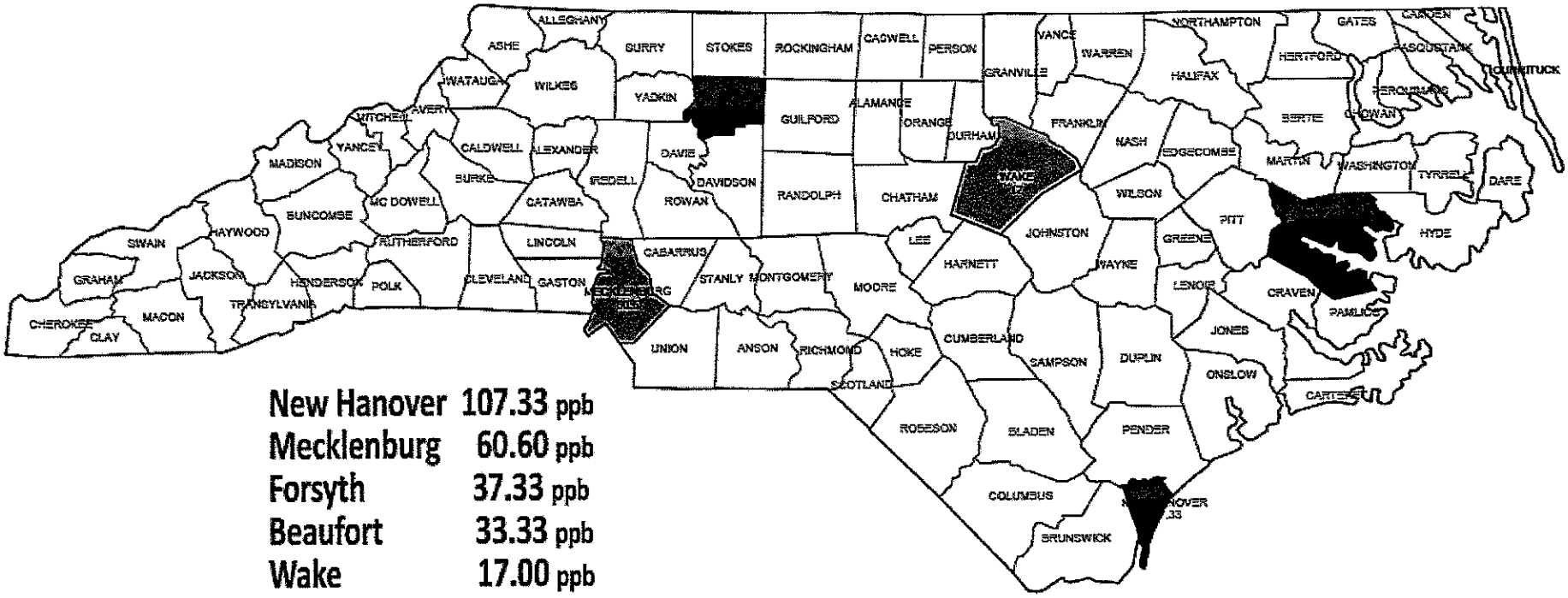
USEPA Revoked

- **Annual standard = 30 parts per billion (ppb)**
- **24-hr standard = 140 ppb**

USEPA Set New 1-hr standard = 75 ppb

- **3-year average of the annual 99th percentile of 1-hour daily max concentrations**

SO2 99th Percentile, 2007-2009



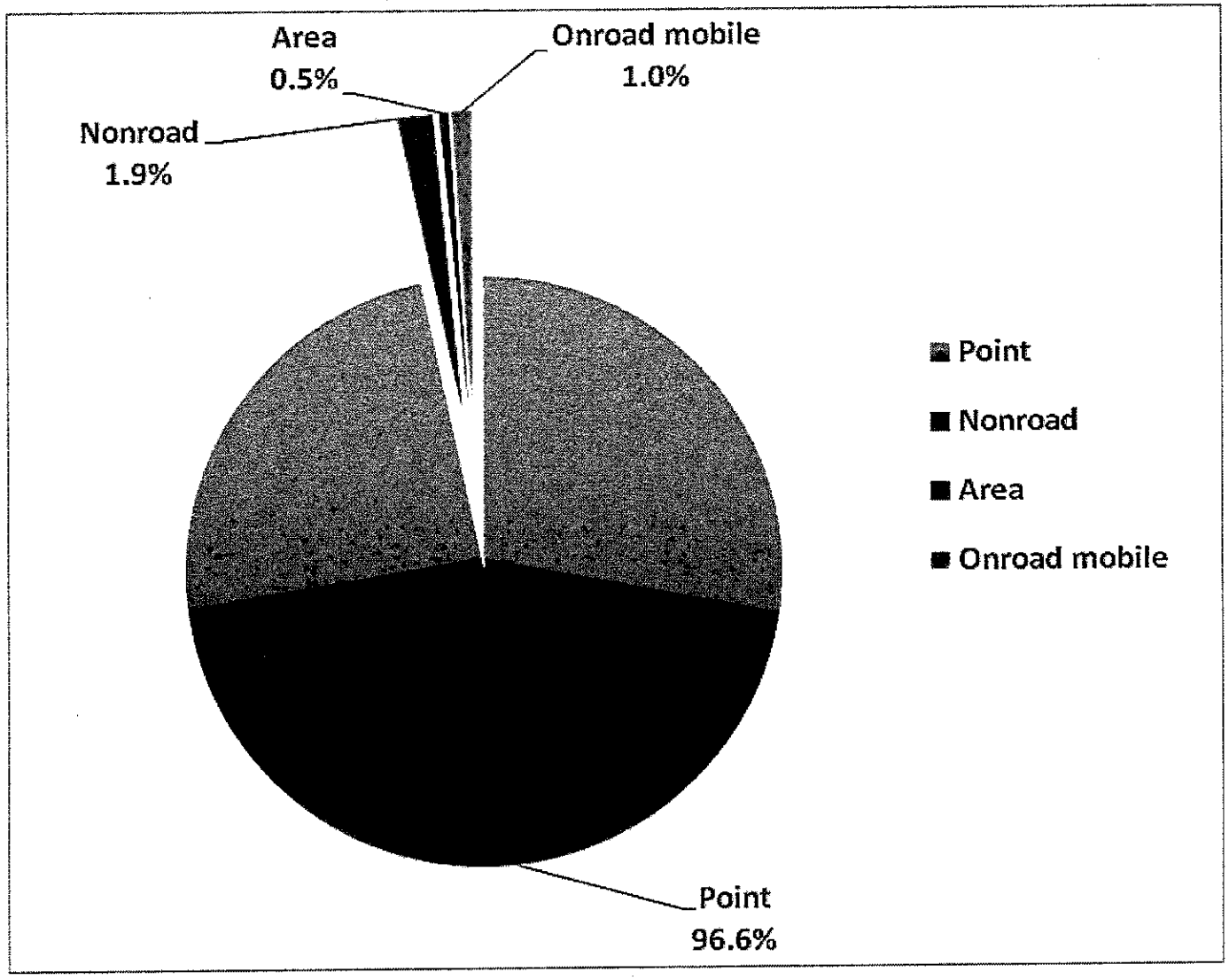
New Hanover	107.33 ppb
Mecklenburg	60.60 ppb
Forsyth	37.33 ppb
Beaufort	33.33 ppb
Wake	17.00 ppb

>100 PPB
75 to 100 PPB
50 to 75 PPB
25 to 50 PPB
0 to 25 PPB

New SO2 standard = 75 ppb

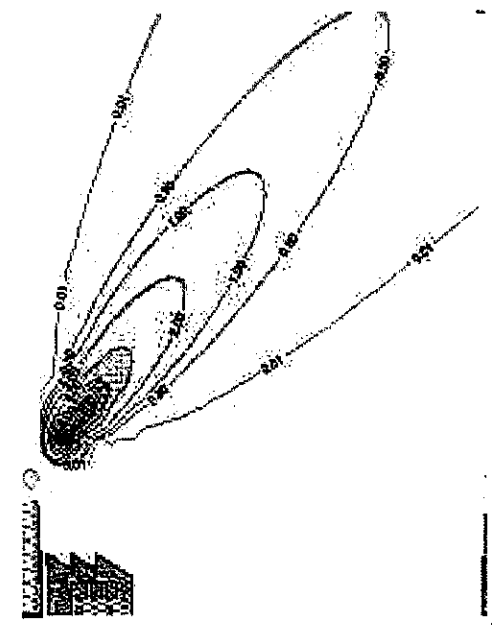
NC DENR
DAQ/Statistical Services
using TIBCO Spotfire S+(R)
Mon Oct 11 17:03:29 EDT 2010

2009 SO2 Emissions Inventory
New Hanover, Brunswick, Pender Counties

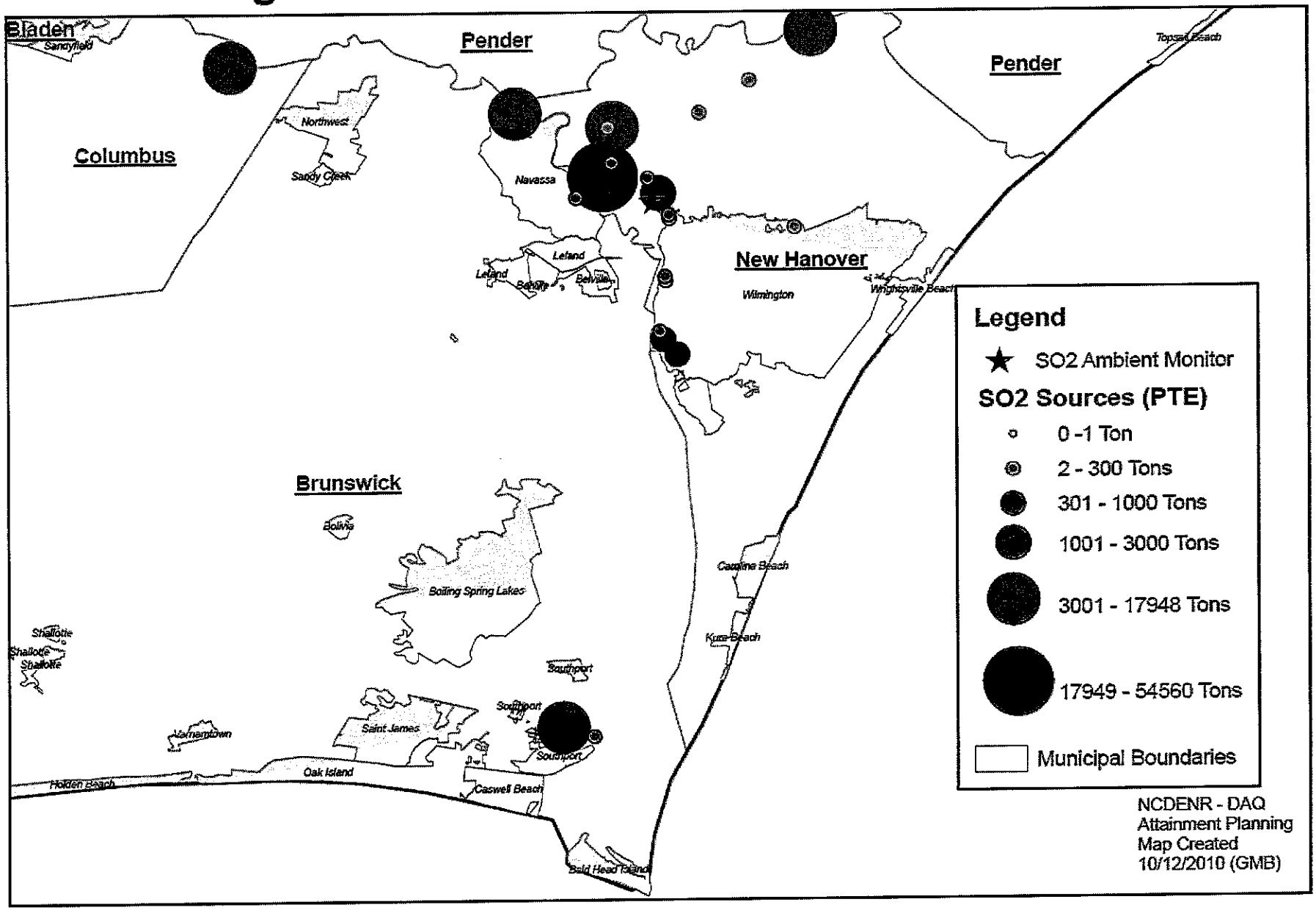


Sulfur Dioxide (SO_2)

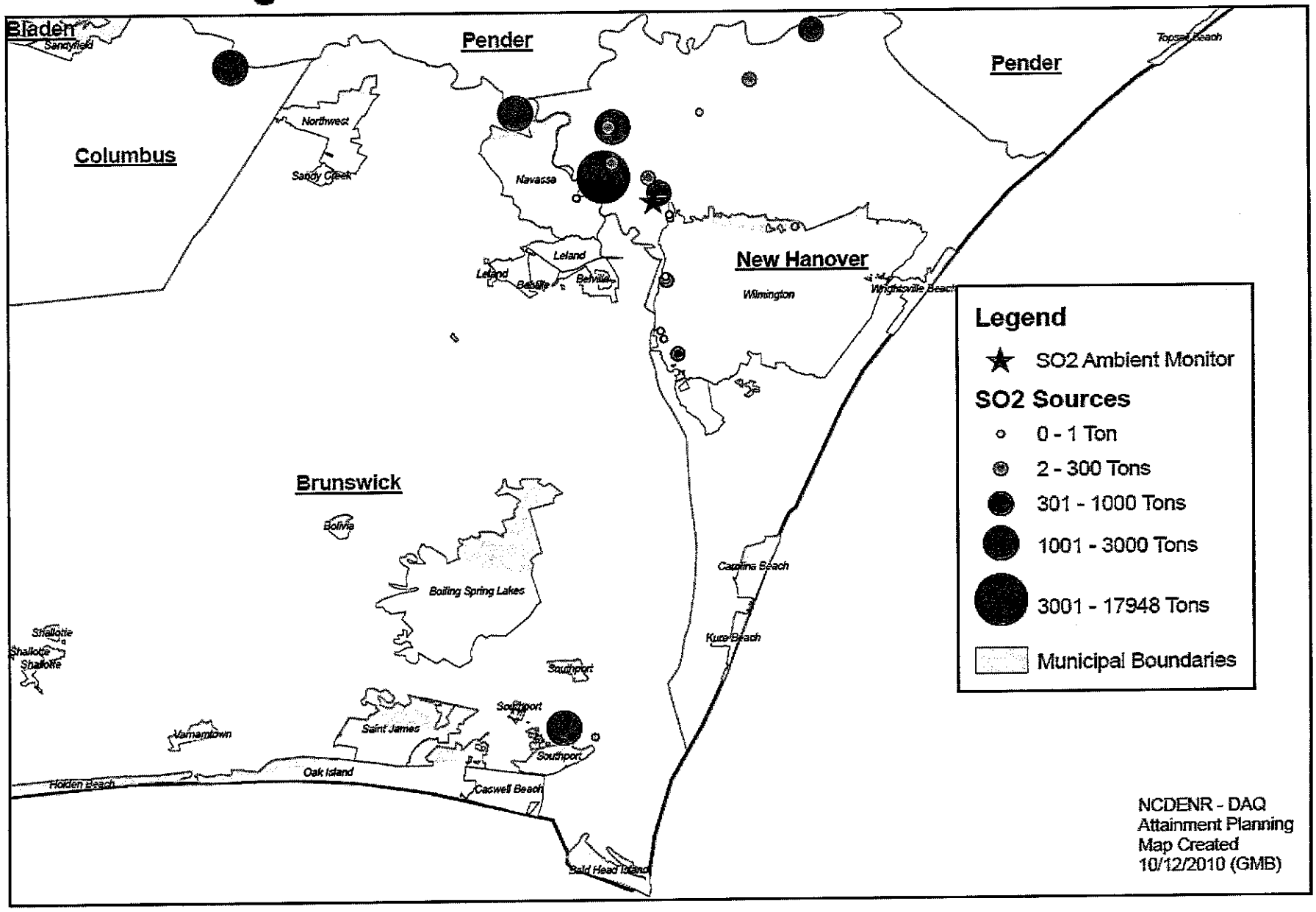
- As a first step in better understanding the ambient SO2 violation in Wilmington, dispersion modeling requested of 22 facilities that may cause or contribute to the measured violation in the Wilmington area.
  - Modeling protocol
    - DAQ review and approval
  - Source modeling
  - Ambient impacts of its SO2 emissions
    - At the monitoring location
    - Locate maximum impact



Potential Emissions At Sulfur Dioxide (SO2) Sources Surrounding The New Hanover SO2 Ambient Monitoring Site



Actual Emissions At Sulfur Dioxide (SO2) Sources Surrounding The New Hanover SO2 Ambient Monitoring Site



Sulfur Dioxide (SO_2)

Next steps as NCDAQ works toward boundary recommendations due June 3, 2011

- Continue analysis
- Anticipating designation guidance from USEPA
  - Factors that must be considered
- Stakeholder meetings will begin

Sulfur Dioxide (SO_2)

Deadline	Milestone
June 2010	EPA sets new primary SO2 standard
June 2011	State boundary recommendations to EPA
February 2012	EPA feedback on State recommendations
April 2012	State deadline to respond to EPA feedback
June 2012	EPA makes final designations
January 2013	New SO2 monitoring operational
June 2013	State Plan for Attainment areas due
February 2014	State Plan for Nonattainment areas due
August 2017	All areas attain the standard

Sulfur Dioxide (SO_2)

Challenges:

- Violations in Wilmington
- Permitting
- Monitoring $$$
  - NC needs 5 additional SO2 monitors (3 currently running)
    - ~$64,000 initial cost… ~$107,000 recurring annual costs
- USEPA expectations for Maintenance Plan due June 2013
  - Modeling demonstrations necessary to show all sources contributing to (or have the potential to cause or contribute to) monitored <u>and modeled</u> violations of the new standard.
  - Awaiting USEPA guidance

Secondary Standards for SO_2

- Public welfare standards
- Proposal by USEPA is scheduled for July 2011

Contact Information

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