

PROPOSED OZONE RULE AND ANTICIPATED COMMENTS

February 10, 2010

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Outline

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 - Background
 - Proposed Rule Revision
 - Ozone NAAQS Reconsideration Schedule
 - Proposed Accelerated Implementation Timeline
- Primary Standard
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- Anticipated Comments

Overview

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- On January 6, 2010, EPA proposed revisions to the National Ambient Air Quality Standards (NAAQS) for ground-level ozone.
- The proposed revisions are based on scientific evidence about ozone and its effects on people and sensitive trees and plants.
- The proposed revisions would affect:
 - ▣ Primary standard established to protect public health
 - ▣ Secondary standard established to protect public welfare and the environment

Proposed Rule Revision

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- Specifically, EPA is:
 - ▣ Proposing to revise the level of the primary 8-hour ozone standard to a level within the range of 0.060-0.070 parts per million (ppm).
 - ▣ Proposing to establish a separate cumulative secondary standard within a range of 7-15 ppm-hours.
- EPA is also proposing to update the Air Quality Index (AQI) for ozone.

Ozone NAAQS Reconsideration Schedule

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- Proposal signed on January 6, 2010.
- Public comment period open until March 22, 2010
- Public hearings
 - ▣ February 2, 2010 – Arlington, Va., and Houston, Texas.
 - ▣ February 4, 2010 – Sacramento, Calif.
- Final Rule signed by August 31, 2010.

Proposed Accelerated Implementation Timeline

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Milestone	Date
Signature – Final rule	August 31, 2010
State Designation Recommendations to EPA	January 2011
Final Designations	Effective no later than August 2011
Attainment Demonstrations SIPs Due	December 2013
Attainment Dates	2014 – 2031 (depends on severity of problem)

EPA is planning to propose an implementation rule in spring 2010 and issue a final rule as quickly as possible after the final ozone NAAQS.

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Primary Standard

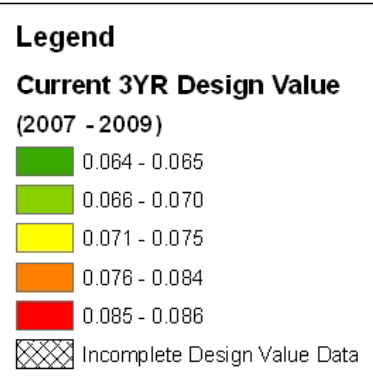
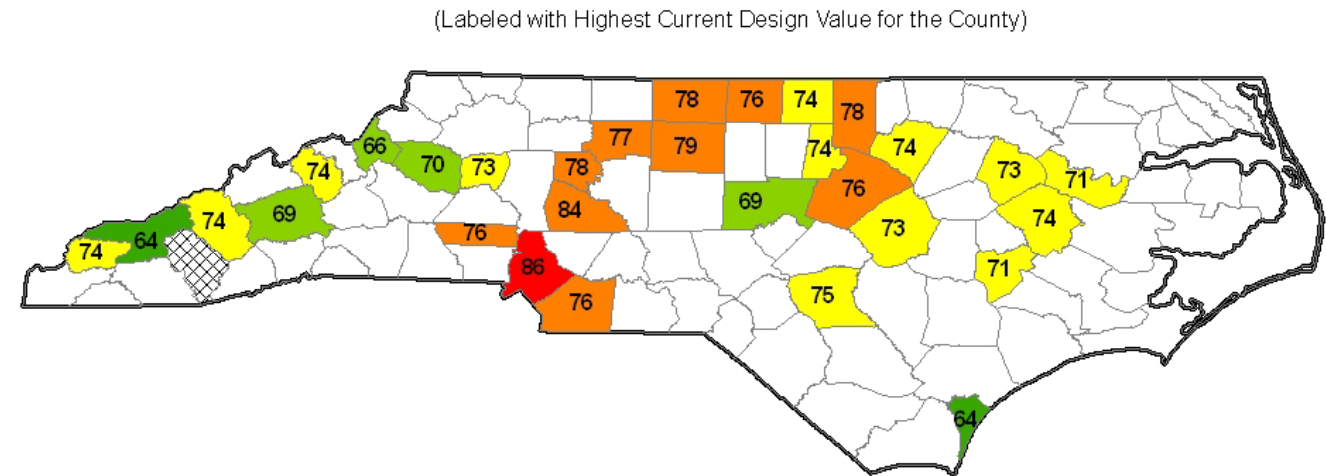
What areas may be affected ?

Severity and Nonattainment Consequences

Current 3-year Design Values

2007-2009
Current 3-
year design
values are
showing
improvement.

Final
designations
will be made
based on
2008-2010
design values.

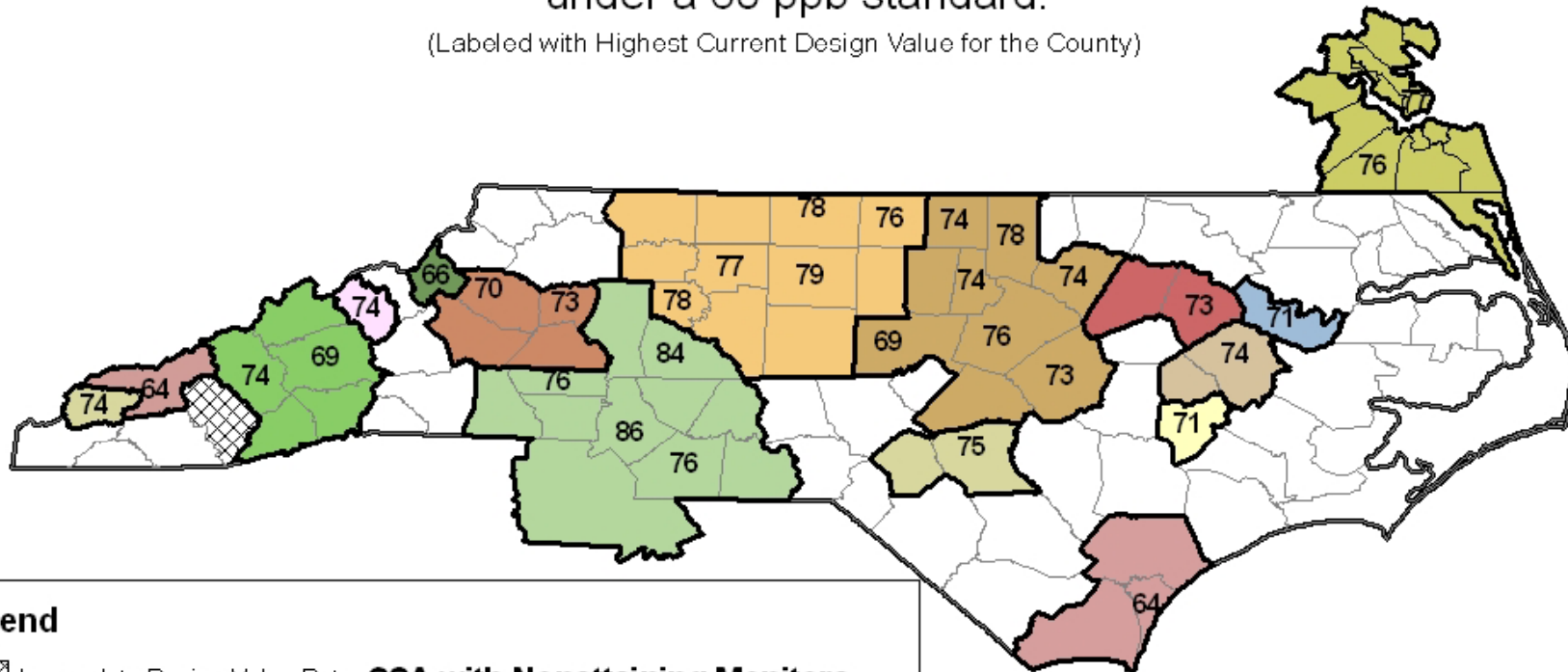


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NC DENR - DAQ
Attainment Planning
Map Created
10/12/2009 (BD)

Presumptive nonattainment boundaries under a 60 ppb standard.

(Labeled with Highest Current Design Value for the County)













Legend

 Incomplete Design Value Data **CSA with Nonattaining Monitors**

Counties outside CSA*

-  Avery
-  Graham
-  Lenoir
-  Martin
-  Swain
-  Yancey

-  Asheville-Brevard, NC
-  Charlotte-Gastonia-Salisbury, NC-SC
-  Fayetteville, NC
-  Greensboro-Winston Salem-High Point,
-  Greenville, NC
-  Hickory, NC
-  Raleigh-Durham_Cary, NC
-  Rocky Mount, NC
-  Wilmington, NC
-  Virginia Beach - Norfolk - New Port News

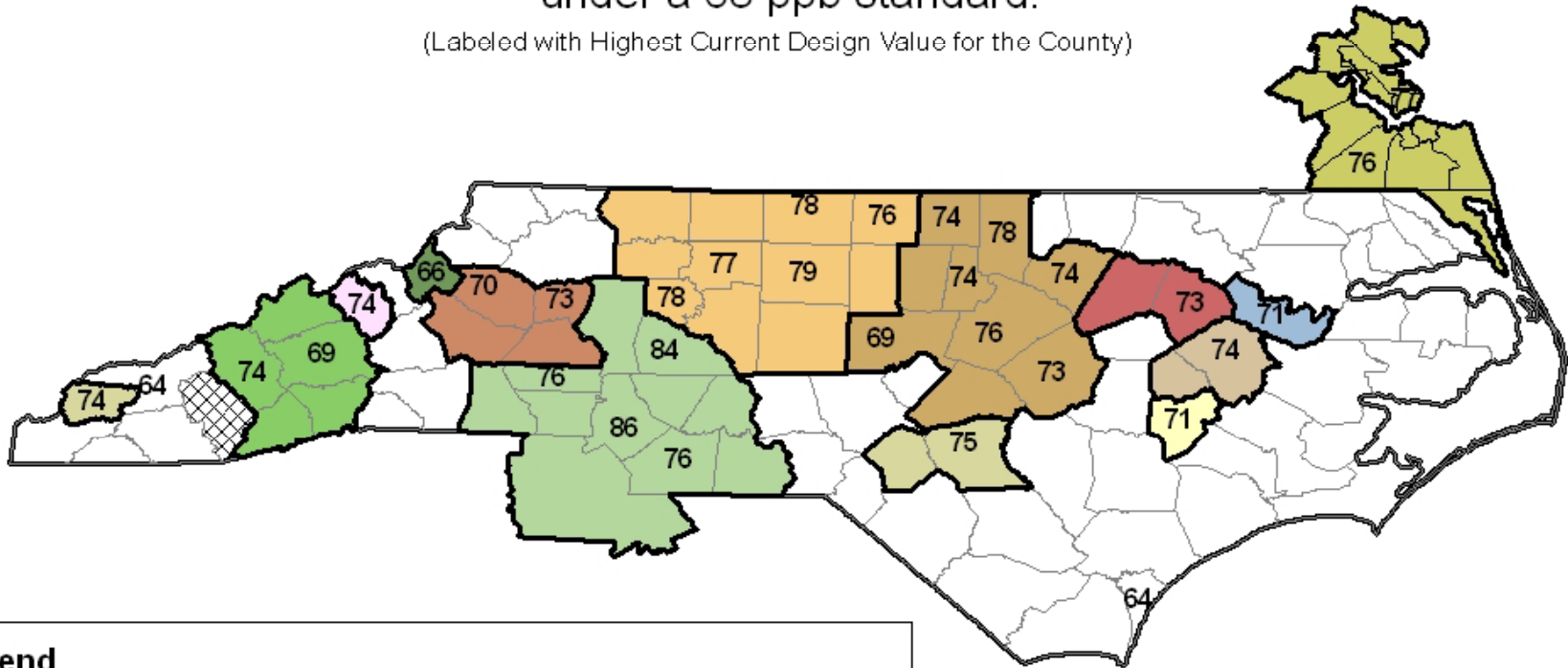
* Includes counties with nonattaining monitors and counties included in previously designated Ozone nonattainment areas

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Attainment Planning
Map Created
11/04/2009 (BD)

Presumptive nonattainment boundaries under a 65 ppb standard.

(Labeled with Highest Current Design Value for the County)



Legend

	Incomplete Design Value Data	CSA with Nonattaining Monitors
Counties outside CSA*		
	Avery	 Asheville-Brevard, NC
	Graham	 Charlotte-Gastonia-Salisbury, NC-SC
	Lenoir	 Fayetteville, NC
	Martin	 Greensboro-Winston Salem-High Point,
	Yancey	 Greenville, NC
		 Hickory, NC
		 Raleigh-Durham_Cary, NC
		 Rocky Mount, NC
		 Virginia Beach - Norfolk - New Port News

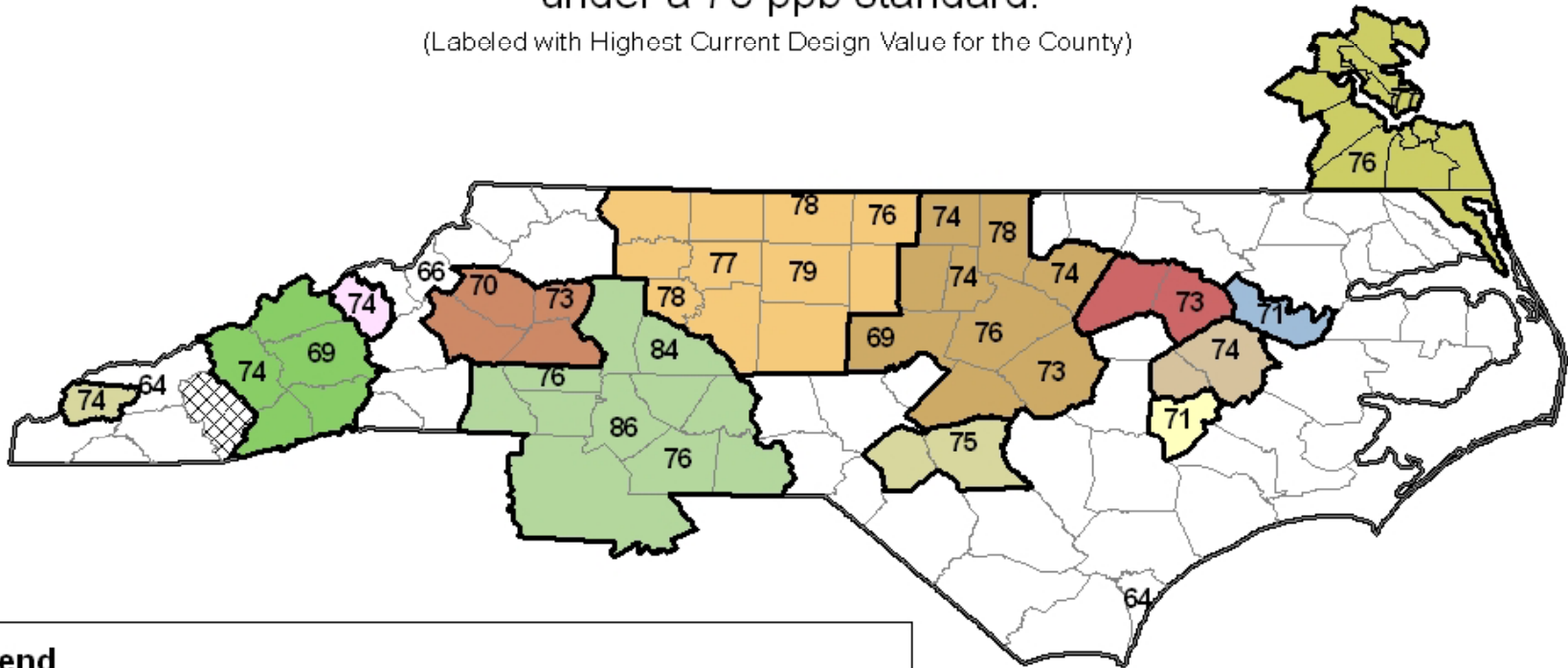
* Includes counties with nonattaining monitors and counties included in previously designated Ozone nonattainment areas

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 Attainment Planning
 Map Created
 11/04/2009 (BD)

Presumptive nonattainment boundaries under a 70 ppb standard.

(Labeled with Highest Current Design Value for the County)



Legend

	Incomplete Design Value Data	CSA with Nonattaining Monitors
Counties outside CSA*		
	Graham	 Asheville-Brevard, NC
	Lenoir	 Charlotte-Gastonia-Salisbury, NC-SC
	Martin	 Fayetteville, NC
	Yancey	 Greensboro-Winston Salem-High Point,
		 Greenville, NC
		 Hickory, NC
		 Raleigh-Durham_Cary, NC
		 Rocky Mount, NC
		 Virginia Beach - Norfolk - New Port News

* Includes counties with nonattaining monitors and counties included in previously designated Ozone nonattainment areas

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NCDENR - DAQ
 Attainment Planning
 Map Created
 11/04/2009 (BD)

Nonattainment Severity

- The potential breaks for level of severity will also be revised
- Possibility that with a standard of .060 ppm (60 ppb) NC would potentially have areas classified as Serious

Nonattainment Classification		0.06 NAAQS	0.065 NAAQS	0.07 NAAQS	0.08 NAAQS
Marginal	<i>from</i>	0.061	0.066	0.071	0.085
	<i>up to</i>	0.065	0.071	0.076	0.091
Moderate	<i>from</i>	0.066	0.072	0.077	0.092
	<i>up to</i>	0.076	0.083	0.089	0.106
Serious	<i>from</i>	0.077	0.084	0.090	0.107
	<i>up to</i>	0.086	0.093 (0.094)	0.100	0.119
Severe I	<i>from</i>	0.087	0.094 (0.095)	0.101	0.120
	<i>up to</i>	0.092	0.099 (0.100)	0.106	0.126
Severe II	<i>from</i>	0.093	0.100 (0.101)	0.107	0.127
	<i>up to</i>	0.133 (0.134)	0.144 (0.146)	0.155 (0.156)	0.186
Extreme	<i>equal to or above</i>	0.134 (0.135)	0.145 (0.147)	0.156 (0.157)	0.187

Consequences of Nonattainment

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Marginal Areas:

- ▣ Attainment date: 3 years (2014)
- ▣ Transportation and General Conformity
- ▣ Offsets for new or modified sources at least 1.1 to 1
- ▣ Nonattainment New Source Review (NSR)
 - 100 ton per year new sources
 - 40 tons per year modifications

Consequences of Nonattainment

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Moderate Areas

- ▣ Attainment date: 6 years (2017)
- ▣ All Marginal Area requirements
- ▣ Offsets for new or modified sources at least 1.15 to 1
- ▣ 15% VOC reductions by 6 years after designations (2017)
- ▣ RACM (Reasonably Available Control Measures)
- ▣ RACT (Reasonably Available Control Technology) for sources with potential to emit 100 tons/yr of VOC/NO_x
- ▣ Inspection and Maintenance Program for vehicles

Consequences of Nonattainment

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Serious Areas

- ❑ Attainment date: 9 years (2020)
- ❑ All Moderate Area requirements
- ❑ Offsets for new or modified sources at least 1.2 to 1
- ❑ 15% VOC reductions by 6 years after designations and 3% per year VOC/NO_x reductions until attainment date
- ❑ RACT for sources with the potential to emit 50 tons per year
- ❑ Stage II Gasoline Vapor Recovery
- ❑ Nonattainment New Source Review drops to
 - 50 ton per year new sources
 - 25 tons per year modifications

Consequences of Nonattainment

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Severe Areas

- ❑ Attainment date: 15 or 17 years (2023 or 2025)
- ❑ All Serious Area requirements
- ❑ Offsets for new or modified sources at least 1.3 to 1
- ❑ RACT for sources with the potential to emit 25 tons per year
- ❑ Employee trip reduction program
- ❑ Measures to offset vehicle miles travels growth

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Secondary Standard

Why is there a need for a secondary standard?

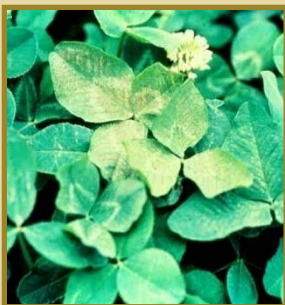
What is W126?

What areas could possibly be affected?

Ozone and the Environment

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- Ground-level ozone is absorbed by the leaves of plants, where it can:
 - Interfere with the ability of sensitive plants to produce and store food
 - This can lead to reduced growth, biomass production and/or yields.
 - Make sensitive plants more susceptible to certain diseases, insects, other pollutants, competition and harsh weather.
 - Reduce or change species diversity
 - This can lead to damage to ecosystems dependent on those species.
 - Visibly injure the leaves of plants, harming the appearance of vegetation in national parks, recreation areas and cities.



Proposed Revisions to the Secondary Ozone Standard

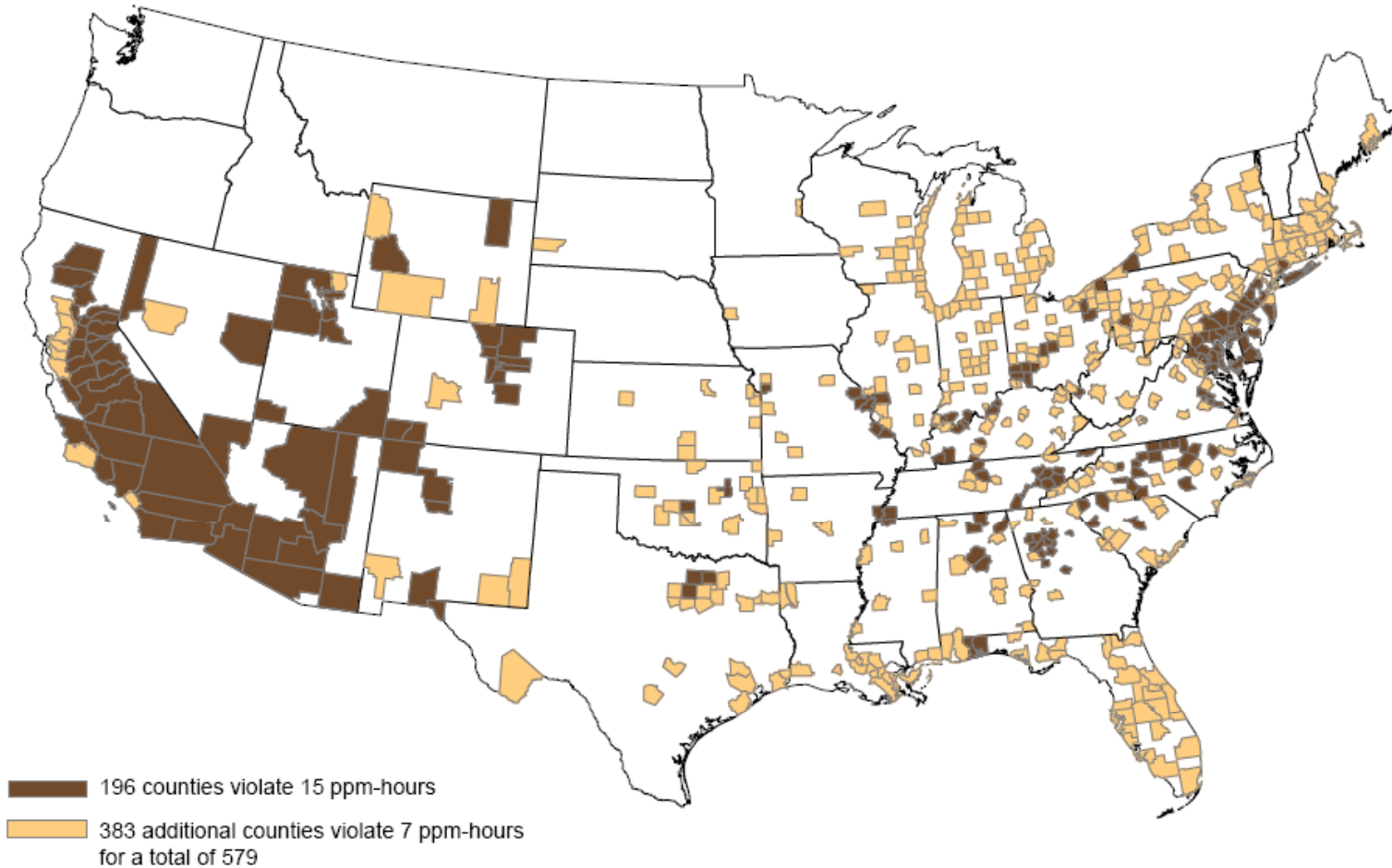
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- EPA is proposing to establish a distinct cumulative, seasonal secondary standard at a level in the range of **7-15 ppm-hours**.
 - ▣ This cumulative standard would add weighted hourly ozone concentrations across all days in a three-month period.
- The Administrator asserted in the proposed rule that a seasonal secondary standard identical to the primary standard, as was set in 2008, is inadequate to provide the requisite level of protection for vegetation and ecosystems.
- The new secondary standard, also called W126, is designed to account for the cumulative effects of repeated ozone exposures on sensitive vegetation during the three months of the year when ozone concentrations are highest.

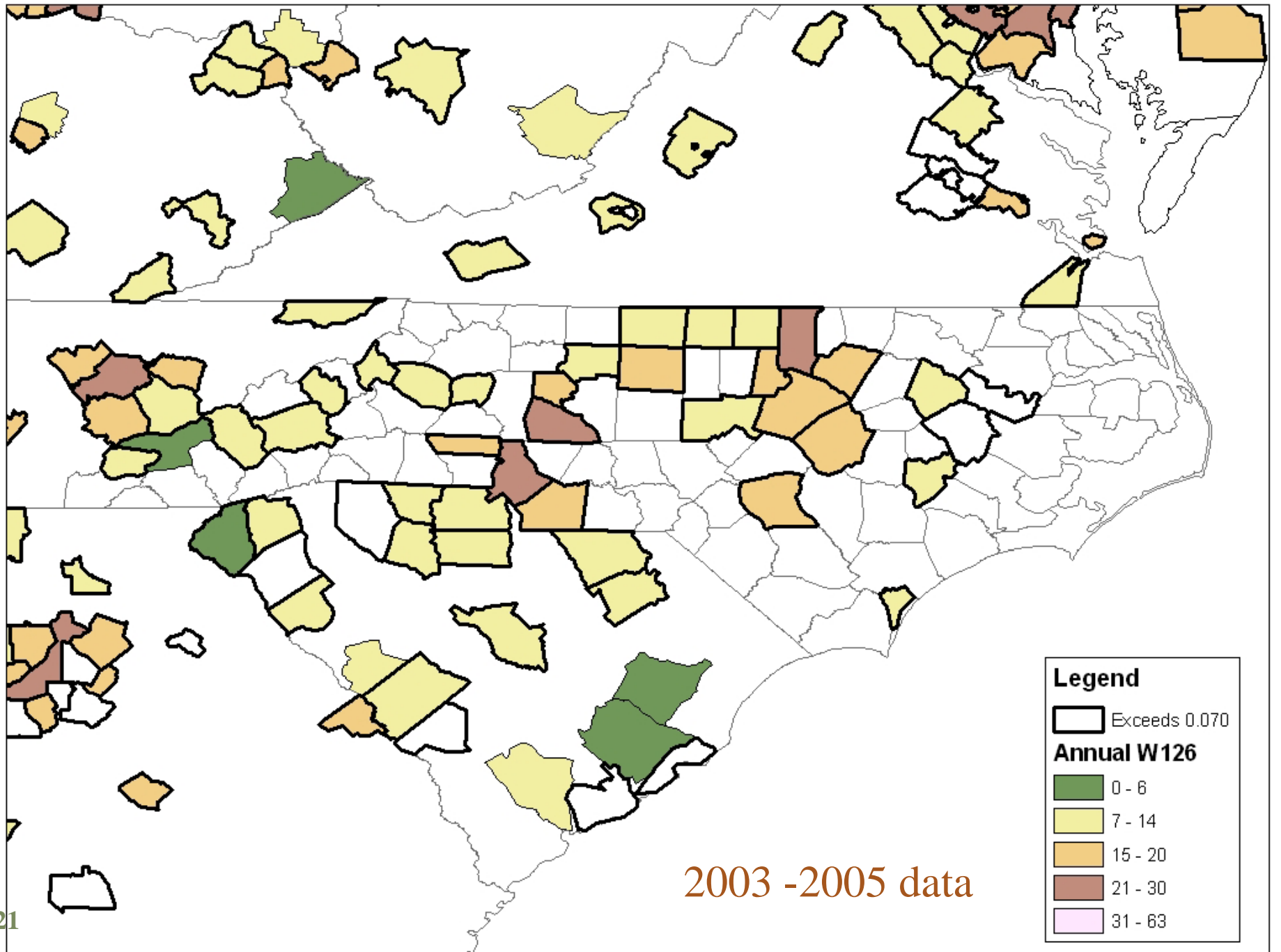
Counties With Monitors Violating Proposed Secondary Seasonal Ground-Level Ozone Standards 7 – 15 parts per million - hours

(Based on 2006 – 2008 Air Quality Data)

EPA will not designate areas as nonattainment on these data, but likely on 2008 – 2010 data which are expected to show improved air quality.



No monitored counties outside the continental U.S. violate.



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Anticipated Comments

Level of the Primary Standard

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- NC DAQ will likely encourage EPA to set the standard at 0.070 ppm (70 ppb) in order to balance health needs with the economic needs of the nation at this time
- NC DAQ has additional concern about the standard being set lower than 0.070 ppm, as it approaches levels that are typically considered background levels for the state
- Suggest that a lower standard might be more prudent when there is more significant scientific evidence (both on health effects and background level) is available at the next review period

Secondary Standard

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- NC DAQ will comment about our concerns with a secondary standard being effectively more stringent than the primary standard
- NC DAQ believes additional research needs to be done to determine an appropriate level of the secondary standard as different areas of the country may benefit from differing levels of a secondary standard

Additional Comments

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- NC DAQ will be making additional comments on the data completeness and data substitution requirements
- NC DAQ is also encouraging Department of Forest Resources and Department of Agriculture to review the rule to see if they have comments

Contact Information

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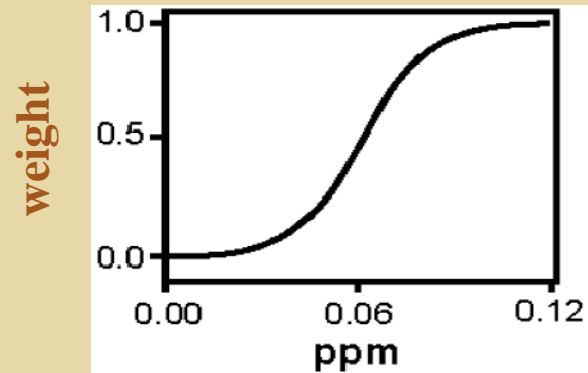
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Additional Information

Understanding the Proposed W126 Secondary Standard

Steps in calculating W126 value for a particular site:

1. Measure hourly ozone (O₃) concentrations for each hour within the 12 hour daylight period (8am-8pm).
2. Assign a weight to each hourly value based on concentration: lower concentrations receive less weight than higher concentrations.
3. Sum the 12 weighted hourly values to calculate a daily W126 value.
4. Repeat steps 1-3 for each day within the ozone season and then sum the daily values to calculate the monthly W126 value.
5. Identify the consecutive 3-month period whose monthly W126 values produce the highest total.
6. This total becomes the seasonal W126 for this site.



Example of weighting over 5-hour period:

Hourly O ₃ (ppm)	Weight	W126 (ppm-hrs)
0.03	0.01	0.00
0.05	0.11	0.01
0.06	0.30	0.02
0.08	0.84	0.07
0.10	1.0	0.10
	SUM:	0.20

Daily value = Sum of values over 12 daylight hours