

Georgia Department of Natural Resources

Environmental Protection Division • Air Protection Branch

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Noel Holcomb, Commissioner

Carol A. Couch, Ph.D., Director

November 1, 2004

Beverly Bannister
Director
Air, Pesticides, and Toxics Management Division
U.S. EPA, Region 4
161 Forsyth Street, SW
Atlanta, Georgia 30303-3104

Re: PM_{2.5} Nonattainment Area Designations
Additional Information for Consideration

Dear Ms. Bannister:

The United States Environmental Protection Agency (EPA) has promulgated a new Fine Particle National Ambient Air Quality Standard (PM_{2.5}). Section 107 (d)(1) of the Clean Air Act requires each state to submit to the EPA its recommended designation of each area of the State as attainment/unclassifiable or nonattainment under the standard. On February 13, 2004, the Georgia Environmental Protection Division (the Division) submitted initial recommendations for the designation status of each county in Georgia. Revised recommendations with supporting information were submitted to EPA on June 15, 2004, and June 17, 2004. On June 29, 2004, EPA submitted a letter to Governor Sonny Perdue notifying him of EPA's intent to modify Georgia's PM_{2.5} nonattainment recommendations. Additional information for EPA's consideration was submitted by Georgia EPD on September 1, 2004. This letter is to provide additional information concerning Harris County and to address questions EPA has raised about other potential nonattainment counties.

EPD's June 17th letter recommended that all Georgia counties within and surrounding the Columbus MSA be designated as attainment based on Georgia and Alabama's proposal to revise the PM_{2.5} monitoring plan (i.e., spatial averaging plan) and 2001-2003 data from the three PM_{2.5} monitors in the Columbus/Phenix City area. That letter further recommended that if the spatial averaging plan is not approved, the only Georgia county in the Columbus/Phenix City area that should be designated nonattainment for PM_{2.5} is Muscogee County (which contains the urban center for the area). U.S. EPA's June 29th letter recommended that the Georgia counties of Muscogee and Harris (as well as Russell County in Alabama) be included as part of the Columbus/Phenix city PM_{2.5} nonattainment area. EPD's September 1st submittal continued to recommend that all Georgia counties in the Columbus/Phenix City area be designated attainment based on our expected approval of the spatial averaging plan. At this point, the spatial averaging plans for Columbus and Phenix City have yet to be approved. Therefore, EPD is submitting additional information concerning Harris County should EPA not approve the spatial averaging plan.

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On October 19, 2004, we met with members of your staff to discuss PM2.5 designations for Georgia. During that meeting, your staff requested certain additional information to support our previous submittals. This additional information included 1) wind direction frequency data obtained from EPA's PM2.5 technical information web site to support our analysis for the Athens and Atlanta areas, 2) percentage of publicly vs. privately held land in Walker County, and 3) September PM2.5 data for Athens, Macon, and Rossville. The wind direction frequency data and information regarding publicly vs. privately held land in Walker County are provided in this letter. The September PM2.5 data and Walker County information was submitted to AQS on October 29, 2004.

Harris County

EPA's June 29th letter states that Harris County is recommended for inclusion in the Columbus/Phenix City PM2.5 nonattainment area because it "has relatively high NOx and VOC emissions and relatively high VMT." EPD's analysis will therefore focus on NOx and VOC emissions and on VMT.

NOx and VOC Emissions

U.S. EPA has reported the Harris County NOx emissions at 2856 ton/yr and VOC emissions at 1748 tons/yr. The most recent data from the 2002 CERR inventory for Harris County is 2302 tons/yr NOx and 2313 tons/yr VOC. (2002 CERR data for Muscogee County is 5966 tons/yr NOx and 12,525 tons/yr VOC.) Using the updated CERR data for Harris and Muscogee Counties, Harris County NOx and VOC emissions are the 3rd highest of the 4 counties within the Columbus MSA. The total emissions from the 4 county MSA (with updated CERR data for Harris and Muscogee County) is 14,373 tons/yr NOx and 19,763 tons/yr VOC. Thus Harris County NOx emissions account for only 16% of the total NOx emissions and 12% of the total VOC emissions for the Columbus MSA. Harris County NOx emissions are less than 50% of each of the two highest NOx emitting counties in the MSA (Russell County, Alabama: 5718 tons/yr and Muscogee County: 5966 tons/yr). The two largest VOC emitting counties in the Columbus MSA (Russell County, Alabama: 4434 tons/yr and Muscogee County: 12,525 tons/yr) account for over 85% of the total VOC emissions from the MSA. Furthermore, of the 21 counties included in the entire analysis for Columbus/Muscogee County, Harris County is 8th in NOx emissions and accounts for only 3.7% of the total area NOx emissions of 62,514 tons/yr and 11th in VOC emissions and accounts for only 3.1% of the total area VOC emissions of 73,759 ton/yr.

EPD has further analyzed the 2302 tons/yr of NOx emissions from Harris County. As reported in the 2002 CERR, 1717 tons per year are from on-road mobile sources, 190 tons per year are from non-road mobile sources, 196 tons per year are from area sources, and 199 tons/yr tons is from point sources.

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EPD has also analyzed the 2313 tons/yr of VOC emissions from Harris County. As reported in the 2002 CERR, 1051 tons per year are from on-road mobile sources, 249 tons per year are from non-road mobile sources, 1000 tons per year are from area sources, and 12 tons per year are from point sources.

Of the 1,241,952 vehicle miles traveled in Harris County in 2002, 485,560 miles, or 39% of the total VMT, of this is from through traffic on two interstates (I-185 which travels N-S from between Troup and Muscogee Counties and I-85 which cuts through the northwest corner of Harris County). If one assumes that annual emissions are proportional to VMT, approximately 670 tons/yr of NOx (29% of the county-wide NOx emissions) and 410 tons/yr of VOC (18% of county-wide VOC emissions) is from through-traffic. Emissions from through traffic are beyond the control of EPD and thus would not be reduced should Harris County be designated nonattainment for PM2.5.

There is only one major point source of NOx in Harris County: Southern Natural Gas Co. – Ellerslie Compressor Station. Its 2002 NOx emissions were 199.4 tons/yr and 2002 VOC emissions were 12.2 tons/yr. PM2.5 nonattainment designation for Harris County could, at the most, reduce NOx emissions from this single source by 100 tons/yr (4% of the county-wide NOx emissions) and would result in no VOC reductions.

As is shown above, NOx and VOC emissions from Harris County are not significant compared to Muscogee County and Russell County, AL. Designation of Harris County for PM2.5 would have little impact on emissions from the county. Therefore, the level of VOC and NOx emissions from Harris County does not provide a rational basis for including the county in a Columbus/Phenix City PM2.5 nonattainment area.

VMT

U.S. EPA has also based its recommendation to designate Harris County as nonattainment for PM2.5 due to high VMT. As noted in our September 1, 2004, letter, the VMT data used by U.S. EPA is incorrect. EPA's reported 2002 VMT for Georgia counties and the correct 2002 VMT for those counties are shown below. EPD has heard from the Alabama Department of Environmental Management that VMT data for the Alabama Counties are incorrect as well.

Table 1: 2002 VMT for Georgia Counties

County	EPA Reported 2002 VMT (thousands of miles)	Correct 2002 VMT (thousands of miles)
Harris	547	1,242
Muscogee	1,594	4,068
Chattahoochee	56	258
Troup	1,454	2,729
Sumter	405	949
Meriwether	271	947
Stewart	75	340

Overall, the correct 2002 VMT is higher than that cited by EPA. However, Harris County VMT is significantly less than that of Muscogee County. It is also less than that of Troup County, which neither U.S. EPA or Georgia EPD has recommended for inclusion in the Columbus/Phenix City PM2.5 nonattainment area. Since EPD does not currently have the correct VMT for relevant Alabama Counties, VMT comparisons with those counties cannot be done by EPD at this time.

Other Factors

U.S. EPA has stated in its June 29th letter, and EPD concurs, that Harris County does not meet the criteria for any of the seven other factors for PM2.5 designation (air quality, population density and degree of urbanization, traffic and commuting patterns, expected growth, meteorology, geography/topography, jurisdictional boundaries, and level of control of emissions).

Conclusion

Both Alabama and Georgia have submitted PM2.5 spatial averaging plans that demonstrate that the Columbus/Phenix City area should be designated attainment for PM2.5. Georgia EPD urges U.S. EPA to move forward with approving these plans. This will result in both Harris and Muscogee Counties being designated attainment for PM2.5.

Should U.S. EPA not approve the spatial averaging plans, EPD's recommendations are as follows:

Comparison of Harris County NOx and VOC emissions against those of Lee County, AL, and Muscogee County, as well as other nearby counties, clearly indicates that the level of emissions of these pollutants does not justify inclusion of Harris County in a Columbus/Phenix City PM2.5 Nonattainment area. As EPA has already stated, Harris County meets none of the other criteria for inclusion in a PM2.5 nonattainment area. Therefore, if Columbus/Phenix City is designated nonattainment for PM2.5, Harris County should not be included within the boundary of the nonattainment area.

Additional Information in Support of Previous Submittals

Atlanta Area

As noted in EPD's September 1, 2004, letter, wind frequency data from the three counties with PM2.5 monitors closest to Putnam and Jasper Counties indicate that the prevailing winds for all three counties (Clayton, DeKalb, and Gwinnett) are primarily from the northwest and secondarily from the east. The data obtained from the EPA website that supports this conclusion is attached.

The following is a summary of the analysis of the inclusion of Putnam and Jasper Counties in the Atlanta PM2.5 nonattainment area as presented in EPD's June 17 and September 1 letters:

- Both Jasper and Putnam Counties meet only one (population growth) of the six quantitative criteria (population density, population growth, % urban, in-commutes, vehicle registration, and VMT) as analyzed by EPD (Table 11 of EPD's June 17th letter).
- Both Jasper and Putnam Counties are designated as part of an area that contributes to the level of ozone in the Atlanta 1-hr ozone nonattainment area and as a result are subject to NOx and VOC control regulations more stringent than other parts of the state.
- Neither Jasper nor Putnam Counties are included as part of the Atlanta 8-hr ozone nonattainment area.
- It is not practical to design a partial county designation that incorporates either "large emitting facility" (Georgia-Pacific complex in Jasper County and Georgia Power's Plant Branch in Putnam County) and is contiguous with the recommended Atlanta PM2.5 nonattainment area.
- Actual emissions from the Georgia-Pacific complex in Jasper County (254.7 tons/yr VOC, 143.4 tons/yr NOx, 1.4 tons/yr SO2, 0.3 tons/yr PM2.5, and no ammonia emissions) are insignificant compared to the total anthropogenic inventory of these pollutants in the recommended Atlanta PM2.5 nonattainment area (231,140 tons/yr VOC, 286,049 tons/yr NOx) and thus should not be considered a "large emitting facility."
- Based on prevailing winds at the four closest PM2.5 monitors in Atlanta (Forest Park, South DeKalb, Gwinnett, and Doraville), both Jasper and Putnam Counties are predominantly downwind from Atlanta.
- Both the Georgia-Pacific Complex and Plant Branch are located a significant distance (43 miles for Georgia-Pacific and 65 miles for Plant Branch) from the nearest Atlanta area PM2.5 monitor (South DeKalb).
- Both Georgia-Pacific and Plant Branch are closer to two attaining PM2.5 monitors (Sandersville, Washington County and Gordon, Wilconson County) and, based on the prevailing winds in those areas, are generally upwind of both attaining monitors (wind direction data from EPA website attached).

- By not including Jasper and Putnam in the Atlanta PM2.5 nonattainment area, both the PM2.5 and 8-hr ozone Atlanta non-attainment areas will have almost identical boundaries (the exception being a very small portion of NE Heard County, which contains Georgia Power's Plant Wansley and contains no public roads, would be included in the PM2.5 nonattainment area). This is consistent with EPA guidance on PM2.5 nonattainment boundaries which stresses the importance of identical boundaries in order to coordinate air quality planning, control strategy development, and implementation of the transportation conformity rule. This factor should be given particularly high consideration for Metro-Atlanta given its large size, complex air quality and transportation issues, and need for multiple agency coordination.

Athens Area

Also noted in our September 1, 2004, letter, wind frequency data from Clarke County indicates that the prevailing winds are from the west. The data obtained from the EPA website that supports this conclusion is attached.

Following is a summary of EPD's analysis of the inclusion of Madison and Oconee Counties as part of the Athens PM2.5 nonattainment area as presented in EPD's June 17 and September 1 letters.

- Madison meets only one (population growth) of the six quantitative criteria (population density, population growth, % urban, in-commutes, vehicle registration, and VMT) as analyzed by EPD (Table 10 of EPD's June 17th letter).
- Oconee County meets three (population density, population growth, and % urbanization) of the six quantitative criteria (population density, population growth, % urban, in-commutes, vehicle registration, and VMT) as analyzed by EPD, but only exceeds the population density threshold by a small margin (Attachment 6 of EPD's September 1st letter).
- Both Madison and Oconee Counties are designated as part of an area that contributes to the level of ozone in the Atlanta 1-hr ozone nonattainment area and as a result are subject to NOx and VOC control regulations more stringent than other parts of the state.
- The prevailing wind direction in Athens is from the west and Madison and Oconee Counties lie north and south (respectively) of Athens.
- The Athens PM2.5 monitor is almost certain to attain the PM2.5 NAAQS as soon as the 2004 data is completed. In EPD's September 1st letter, EPD submitted the Athens PM2.5 data for the first two quarters of 2004 as well as the annual averages for 2002 and 2003. The third quarter 2004 PM2.5 data for the Athens has also been submitted to EPA. The most current PM2.5 data for the Athens monitor are shown below:
 - 3rd quarter 2004 - 14.33 ug/m³
 - CY 2004 (3 of 4 quarters) - 14.49 ug/m³
 - 2002-2004 design value (11 of 12 quarters) - 14.66 ug/m³
 - 4th quarter 2004 critical value - 18.62 ug/m³

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Therefore, it is logical to keep the Athens PM2.5 nonattainment area as small as possible to limit the burdensome and unnecessary requirements of transportation conformity and, until the area is redesignated attainment by EPA, nonattainment NSR.

Chattanooga Area – Partial County Designation for Walker County

During the meeting on October 19, EPA staff requested information on publicly versus privately held land in Walker County. Walker County is approximately 447 square miles or 286,000 acres in size. Of this, 45,533 acres, or approximately 16%, is publicly held land, and therefore restricted from industrial development. Of these 45,533 acres, 43,066 acres are outside the MPO. Specifics concerning the publicly held land are attached. Of the areas listed in the attachment, only Chickamauga National Military Park, approximately 600 acres of the Lula Lake Land Trust, the Durham Railroad Beds, and the Chickamauga Wetlands are located within the MPO.

EPD has previously recommended that if Walker County is designated as nonattainment for PM2.5, that the portion of the county that is included in the Chattanooga MPO be designated nonattainment and the part of Walker County that is outside the MPO be designated attainment. Following is a summary of EPD's analysis of a partial county designation for Walker County as presented in EPD's September 1 letter.

- Of the quantitative criteria that were not based on Walker County itself, the MPO portion of the county exceeds two (population density and percent urbanization) of the four criteria (population density, population growth, percent urbanization, and in-commutes) and the non-MPO portion exceeds none. The population growth within the MPO is much higher than the non-MPO area (9% vs. 0.6%).
- The violating monitor is in Rossville which is well within the MPO area near the Tennessee border.
- Sixty seven percent of Walker County is forested and therefore not likely to be developed. The majority of this forested land is in the non-MPO area.
- Three of the four incorporated cities in Walker County are within the MPO (MPO: Chickamauga, Lookout Mountain, Rossville; non-MPO: LaFayette).

Use of 2004 Data

Based on discussions with EPA, we understand that EPA's upcoming designations, scheduled to take place before the end of 2004, must be based on data from 2001-2003. However, given the schedule of this action, Federal Register publication, and an effective date in late January or early February, we continue to recommend that EPA work with states to consider the use of 2002-2004 data if it can be properly quality assured and submitted to EPA early enough in 2005. If this can be done, EPA should be able to make a finding of attainment and revise its earlier designations prior to

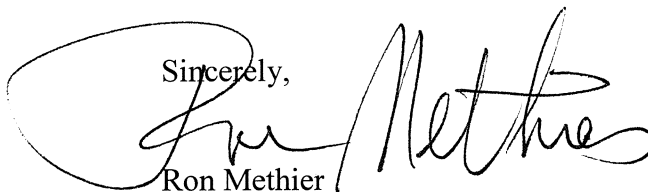
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the scheduled effective date of the nonattainment designations. This is important for several reasons:

- Use of the most current data provides the public with the best and most accurate information possible about the air they breathe.
- Citizens, local governments, and businesses will not need to be confused by conflicting nonattainment/attainment messages resulting from nonattainment designations immediately followed by attainment redesignations.
- U.S. EPA and state air agencies will maintain their credibility as agencies that are working to meet air quality goals in a way that makes sense, uses resources wisely, and is not overly bureaucratic.
- This would allow states to focus resources on areas with real air quality problems.

This is an issue that EPA needs to consider very seriously. While final 2004 data results and the final timing of these actions may result in 2001-2003 data being used for most areas, EPA should not shut the door on this option for states. We strongly encourage EPA to consider and allow this approach, and to make clear in its upcoming designation actions later this year that this is an option that states can pursue.

If you have any questions or need more information, please contact me at (404) 363-7016 or Jimmy Johnston at (404) 363-7014.

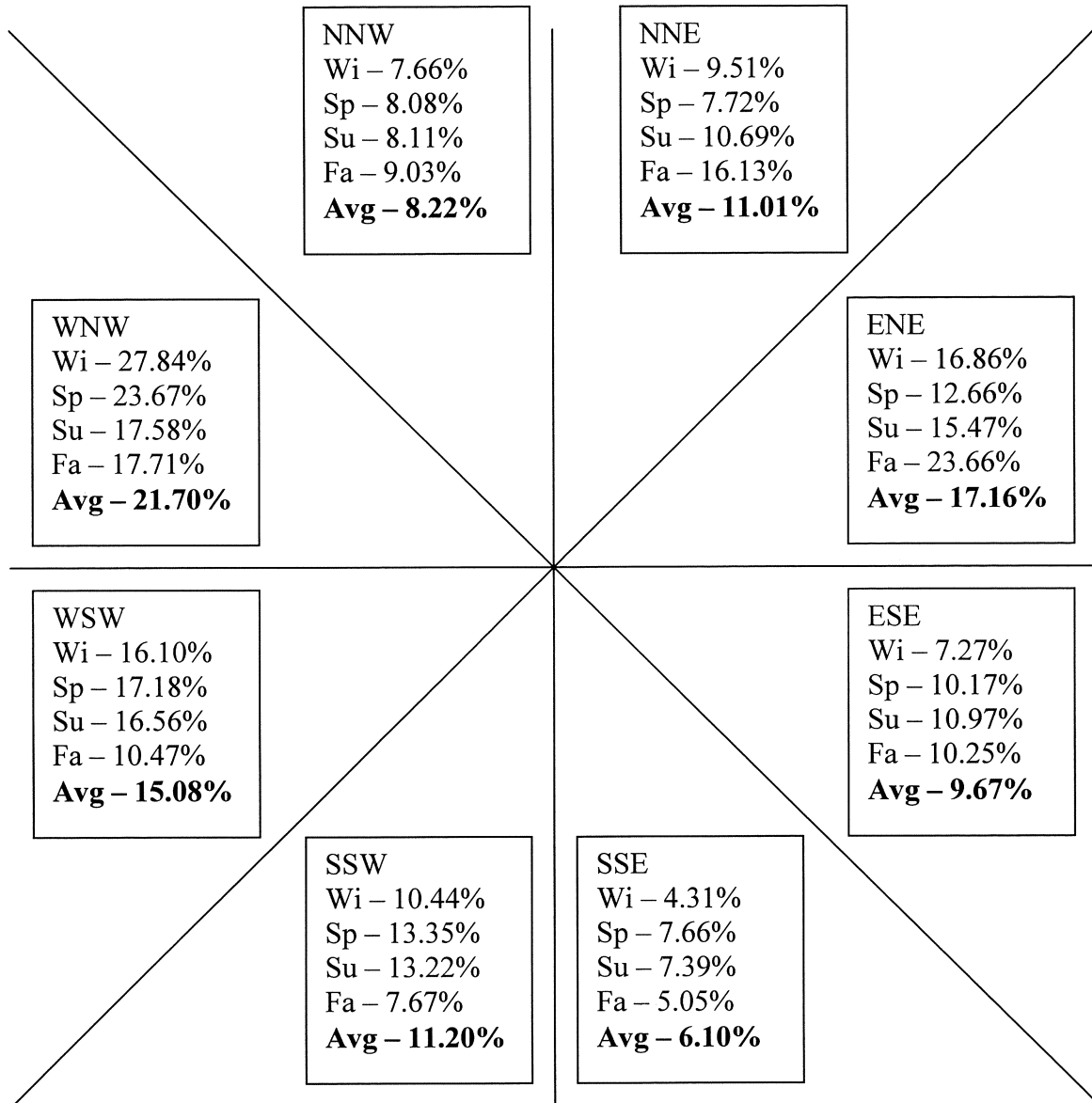
Sincerely,

Ron Methier
Chief
Air Protection Branch

CAC:jjj

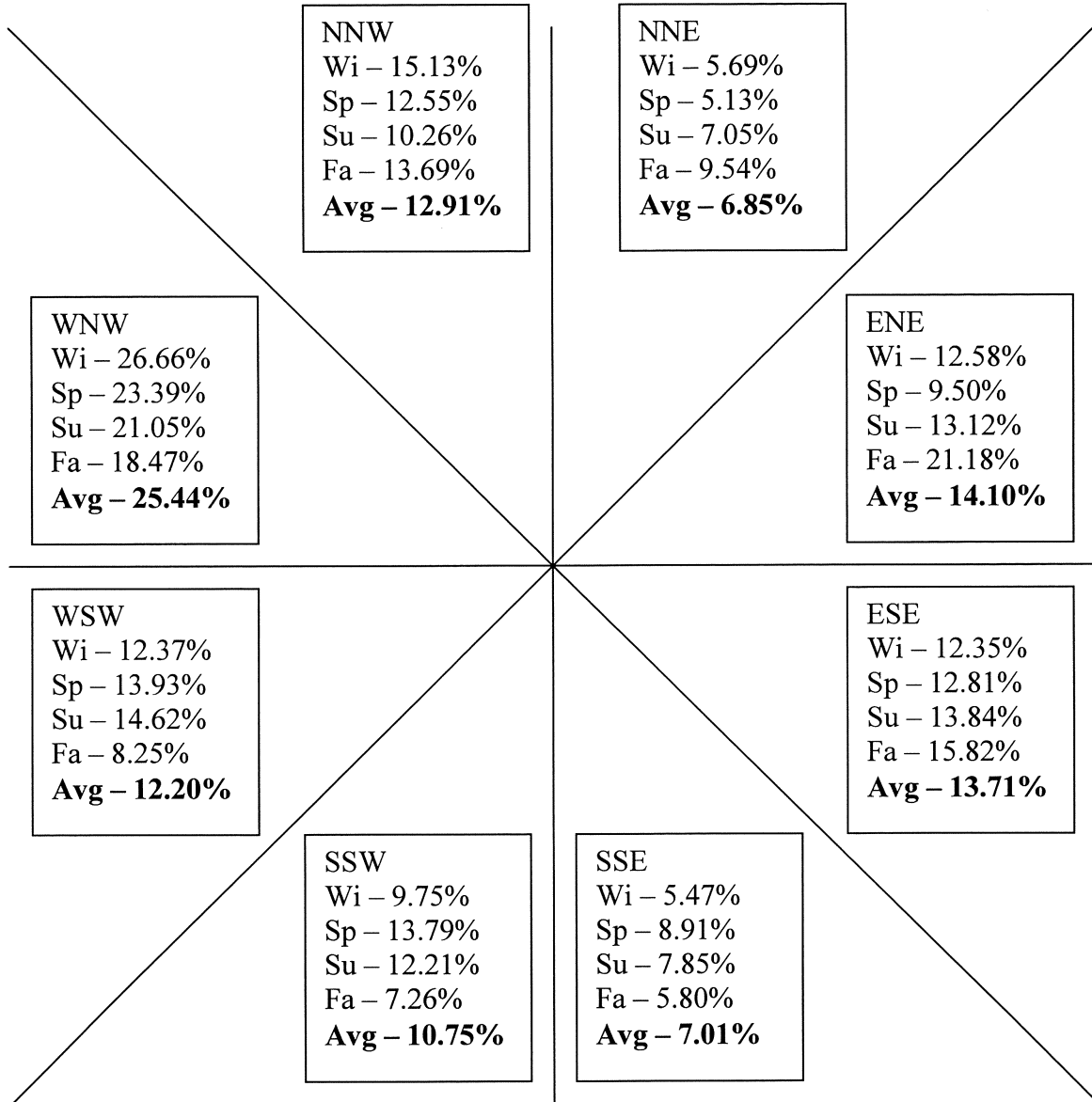
c: Kay Prince, U.S. EPA
Jimmy Johnston
Jim Kelly

attachments

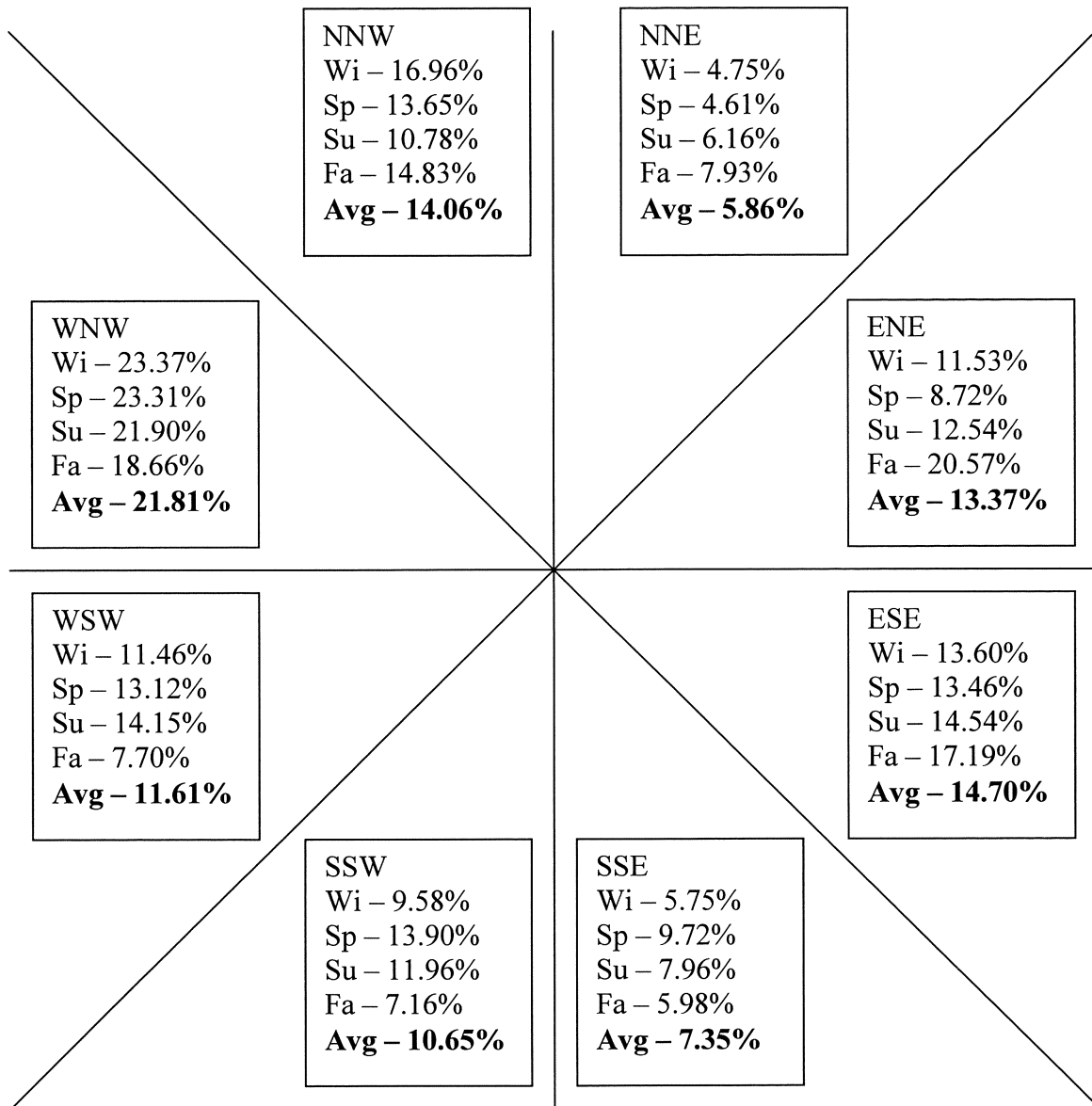
Percent Frequency of Wind Direction by Season
Clarke County, Georgia



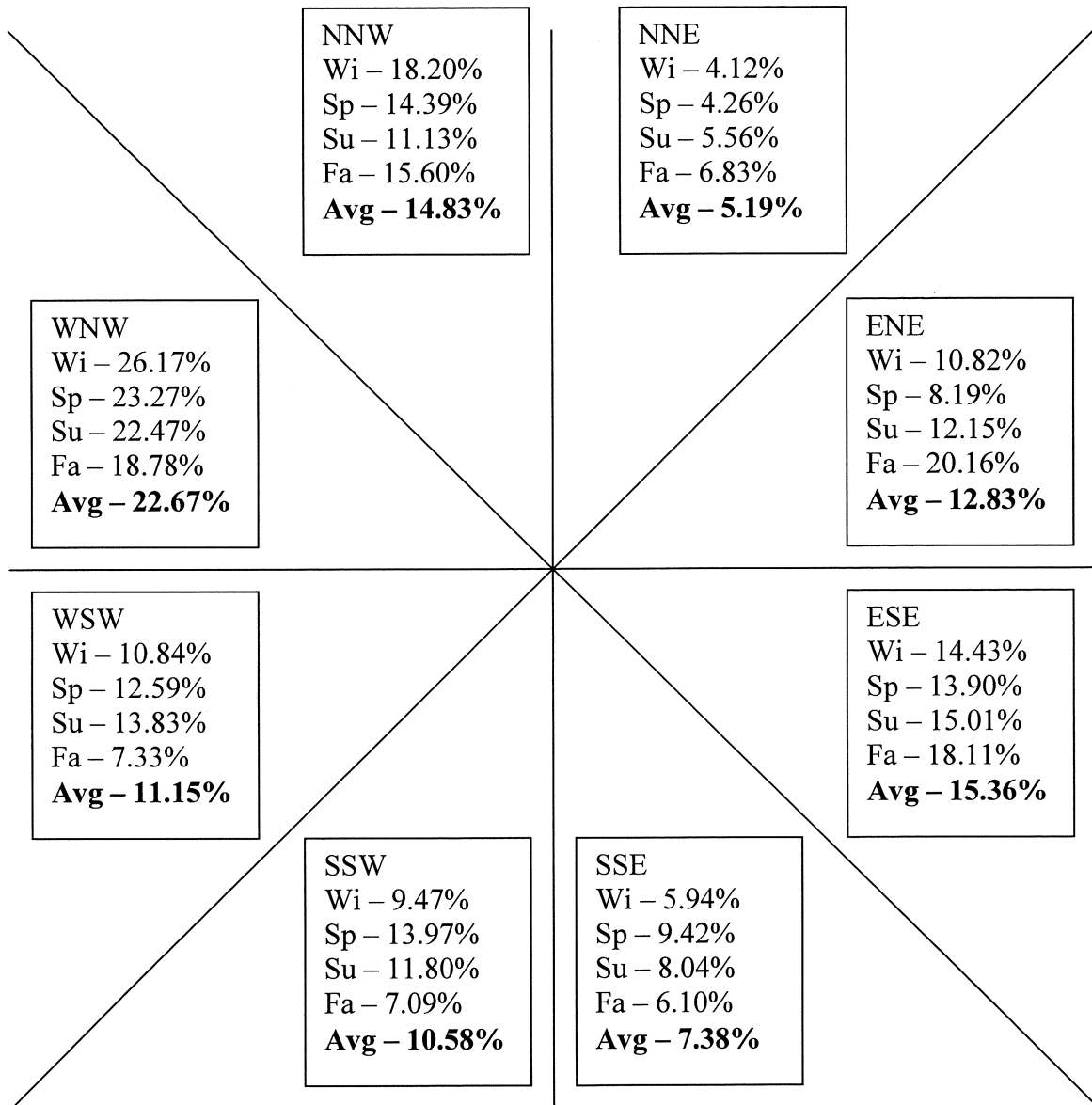
Percent Frequency of Wind Direction by Season
Gwinnett County, Georgia



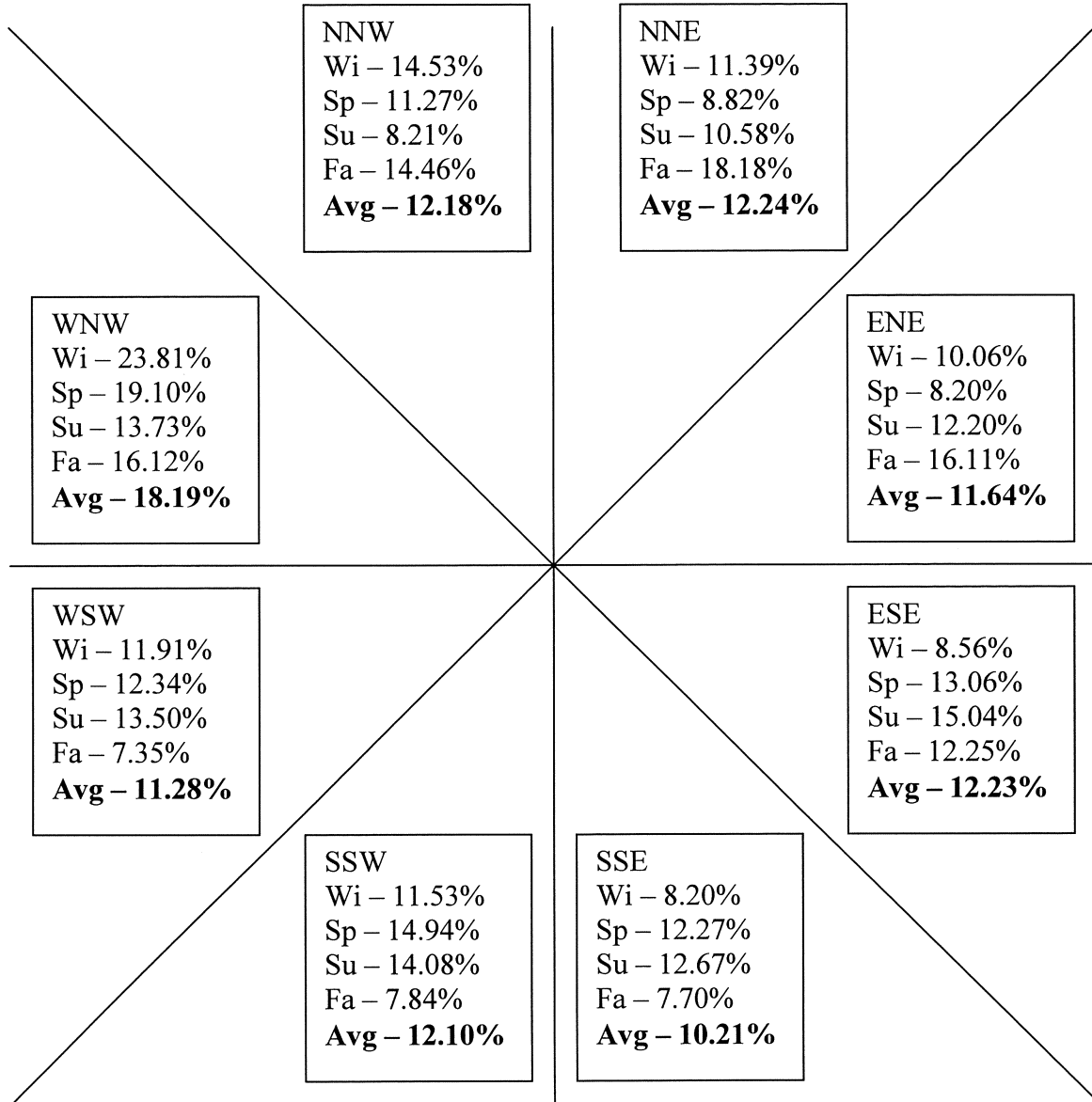
Percent Frequency of Wind Direction by Season
DeKalb County, Georgia



Percent Frequency of Wind Direction by Season
Clayton County, Georgia



Percent Frequency of Wind Direction by Season
Washington County, Georgia



Percent Frequency of Wind Direction by Season
Wilkinson County, Georgia

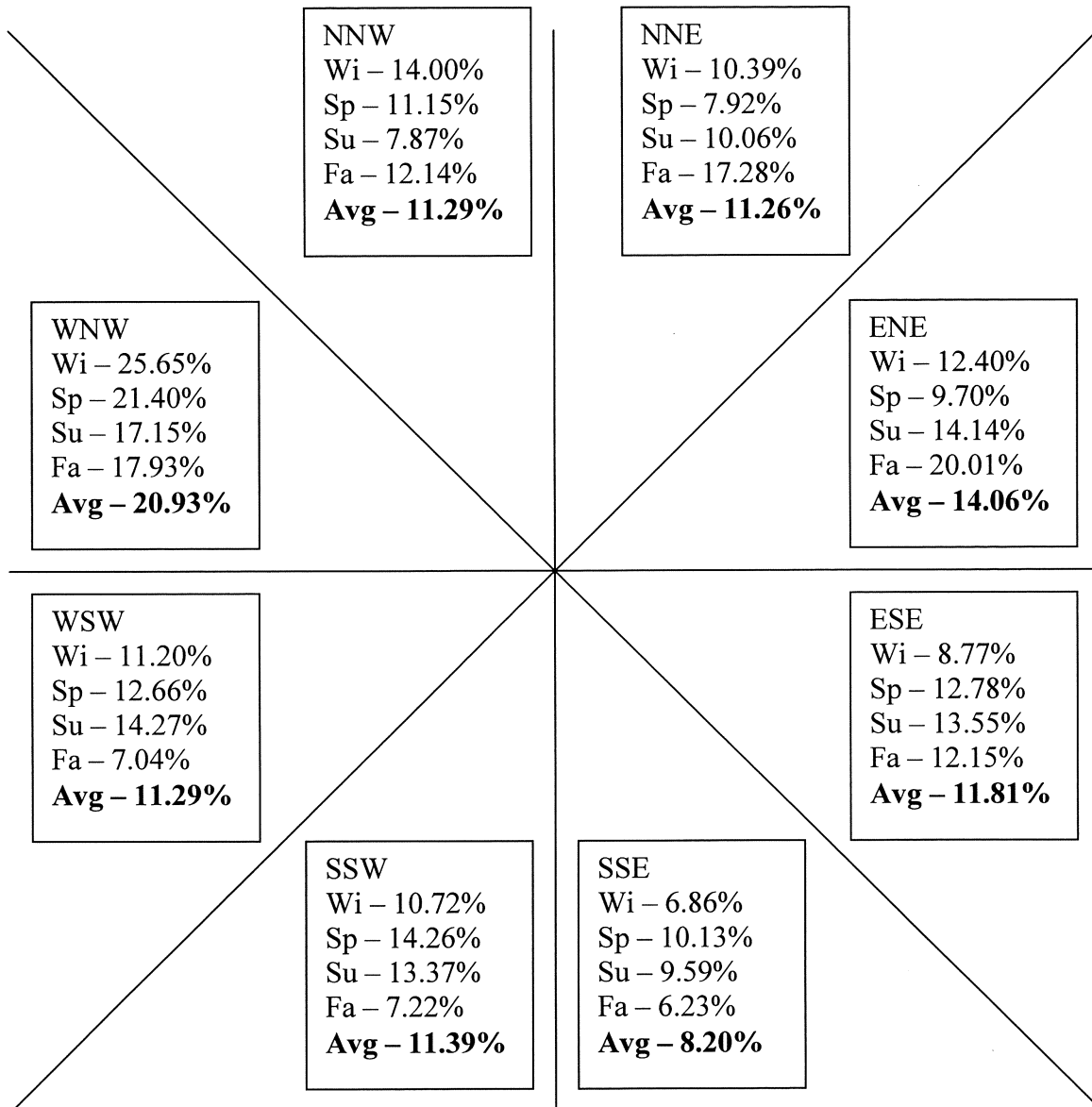


Table 3: Percent Change In Greenspace Protection In Walker County During FY-03-04, as a Percentage of the County's Geographic Area. Provide data in percent values

Method of protection	Percentage of the County In Permanently Protected Greenspace							Row Totals
	All Federal	All State	County	All Municipal	All Conservation Organizations	All Private Ownership		
Permanently protected percentage at beginning of the reporting period (July 1, 2001)	7.00	5.44	0	0	1.25	0	14.69	
Federal ownership/cons. mgt. State ownership/Heritage Prsv. Conservation easement	7.00	6.44	0	0	1.25	0	7.00 6.44 1.25	
Permanent restrictive covenant Condition of grant award Corps wetland mitigation								
Total Percentage	7.00	6.44	0	0	1.25	0	14.69	
Permanently protected percentage acquired during the reporting period 2003-2004		.80	.11	.02	.117	.232	.1162	
Method of Protection Federal ownership/cons. mgt. State ownership/Heritage Prsv. Conservation easement Permanent restrictive covenant Condition of grant award Corps wetland mitigation		.80	.11	.02		.117 .115	.127 .115	
Total Percentage acquired	0	.80	.11	.02	0	.232	1.162	
Total Combined Percentage	7.00	7.24	.11	.02	1.37	.115	15.852	