



**West Central Airshed Society  
Continuous Ambient Air Quality  
Monitoring Program  
Annual Summary for 2014**

Operations and Data Collection by:  
West Central Airshed Society  
Drayton Valley, Alberta

QA/QC, Data Validation and Reporting by:  
West Central Airshed Society  
Drayton Valley, Alberta

February 6<sup>th</sup>, 2015

Director, Central Region  
 Alberta Environmental Protection  
 4<sup>th</sup> Floor, Oxbridge Place  
 9820 106 Street  
 Edmonton, Alberta T5K 2J6

Dear Sir:

Re: Annual Ambient Air Quality Monitoring Report. January – December 2014.

The West Central Airshed Society (WCAS) presents the 2014 Annual Report containing ambient air quality and meteorological information from the following sites:

Station 901	Tomahawk	SE 02 51 06 W5
Station 902	Violet Grove	SE 17 48 08 W5
Station 903	Carrot Creek	SE 31 53 13 W5
Station 905	Steeper	NE 12 48 22 W5
Station 911	Drayton Valley	Weyerhaeuser
Station 912	Edson	Weyerhaeuser
Station 913	Breton	NW 25 47 04 W5

The following is a list of the reported ambient air and meteorological parameters measured at the site locations:

**AMS 901 (Tomahawk)**

SO<sub>2</sub>, O<sub>3</sub>, NO/ NO<sub>2</sub>/ NO<sub>x</sub>, Particulate Matter (2.5 microns), Wind Speed and Direction, Relative Humidity, External Temperature, Photosynthetically Active Radiation, Leaf Wetness (seasonal), and Precipitation (seasonal).

**AMS 902 (Violet Grove)**

SO<sub>2</sub>, O<sub>3</sub>, NO/ NO<sub>2</sub>/ NO<sub>x</sub>, THC, Wind Speed and Direction, Relative Humidity, External Temperature, Delta Temperature, (2m – 10m), Photosynthetically Active Radiation, Global Solar Radiation, Leaf Wetness (seasonal), and Precipitation (seasonal).

**AMS 903 (Carrot Creek)**

SO<sub>2</sub>, O<sub>3</sub>, NO/ NO<sub>2</sub>/ NO<sub>x</sub>, Wind Speed and Direction, Relative Humidity, External Temperature, Photosynthetically Active Radiation, and Precipitation (seasonal).

**AMS 905 (Steeper)**

SO<sub>2</sub>, O<sub>3</sub>, NO/ NO<sub>2</sub>/ NO<sub>x</sub>, CO, Particulate Matter (2.5 microns), Wind Speed and Direction, Relative Humidity, External Temperature, and Precipitation (seasonal).

**AMS 911 (Drayton Valley)**

Particulate Matter (2.5 microns), Wind Speed and Direction, and External Temperature,

**AMS 912 (Edson)**

SO<sub>2</sub>, O<sub>3</sub>, NO/ NO<sub>2</sub>/ NO<sub>x</sub>, Particulate Matter (2.5 microns), Wind Speed and Direction, and External Temperature.

**AMS 913 (Breton)**

SO<sub>2</sub>, O<sub>3</sub>, NO/ NO<sub>2</sub>/ NO<sub>x</sub>, Wind Speed and Direction, Relative Humidity, and External Temperature.

If additional information is required please contact Patrick Andersen at (780) 514-3533 or (403) 505-1041.

Sincerely,

Handwritten signature of Robert Scotten in cursive.

Robert Scotten  
Executive Director

Handwritten signature of Patrick Andersen in cursive.

Patrick Andersen  
Environmental Specialist



Greg Swain  
Senior Technologist



Jeff McClintock  
Technologist

**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

WCAS / Tomahawk Station 901													24 Hour Average Max (ppm)
January to December 2014													
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Total	Min	Max	P10	Q1	Percentile Median	Q3	P90	
SO <sub>2</sub> (ppb)	415	8336	99.9	0.538	-	0.0	39.9	0.0	0.1	0.2	0.5	1.2	0.008
O <sub>3</sub> (ppb)	417	8334	99.9	28.1	-	0.6	67.3	10.7	18.7	28.7	37.3	44.3	0.054
NO (ppb)	438	8296	99.7	0.9	-	0.0	37.4	0.0	0.0	0.1	0.5	2.4	-
NO <sub>2</sub> (ppb)	438	8296	99.7	4.9	-	0.3	33.1	1.1	1.7	3.2	6.2	11.4	0.020
NO <sub>x</sub> (ppb)	438	8296	99.7	5.7	-	0.4	60.5	1.2	1.9	3.5	7.2	13.5	-
Particulate Matter 2.5 microns (µm <sup>3</sup> )	13	8703	99.5	4.1	-	0.0	73.4	0.3	1.4	2.8	5.2	9.3	29.29 ug/m3
Wind Speed (kph)	0	8753	99.9	9.2	-	0.0	46.4	3.0	5.1	8.0	11.8	17.2	-
Temperature (°C)	0	8753	99.9	3.0	-	-34.8	29.9	-14.9	-5.8	4.2	12.6	18.6	-
Relative Humidity (%)	0	8753	99.9	69.6	-	14.5	97.0	41.3	55.2	73.5	86.3	92.1	-
Photosynthetically Active Radiation (W/m <sup>2</sup> )	0	8500	97.0	60.2	-	0.0	407.1	0.0	0.2	4.6	90.9	216.1	-
Precipitation (mm)	0	8753	99.9	-	450.2	0.0	17.6	0.0	0.0	0.0	0.0	0.0	-
Leaf Wetness (%)	0	8753	99.9	21.9	-	3.6	109.8	8.9	11.5	15.8	25.2	44.2	-
Std Dev Wind Direction (deg)	0	8753	99.9	2.4	-	0.0	14.3	1.0	1.4	2.1	3.1	4.4	-
Std Dev Wind Speed (kph)	0	8759	100.0	2.4	-	0.0	12.3	1.0	1.4	2.0	3.2	4.5	-

**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

WCAS / Violet Grove Station 902													
January to December 2014													
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Total	Min	Max	----- P10	----- Q1	Percentile Median	----- Q3	----- P90	24 Hour Average Max (ppm)
SO <sub>2</sub> (ppb)	427	8310	99.7	0.4	-	0.0	46.7	0.0	0.1	0.2	0.4	0.8	0.011
O <sub>3</sub> (ppb)	426	8320	99.8	30.3	-	0.2	69.0	13.8	21.5	30.2	39.2	47.0	0.052
NO (ppb)	434	8311	99.8	0.8	-	0.0	65.8	0.0	0.0	0.1	0.6	1.9	-
NO <sub>2</sub> (ppb)	434	8311	99.8	6.1	-	0.7	44.8	2.4	3.6	4.9	7.2	11.3	0.025
NO <sub>x</sub> (ppb)	434	8311	99.8	6.9	-	0.8	89.6	2.6	3.9	5.3	8.0	13.0	-
THC (ppm)	229	4396	52.8	2.4	-	1.5	10.9	2.0	2.1	2.3	2.5	2.9	3.39
Wind Speed (kph)	0	8721	99.6	9.7	-	0.0	50.3	3.2	5.6	8.8	12.2	17.0	-
Temperature (°C)	0	8748	99.9	2.9	-	-33.3	28.3	-14.1	-4.6	4.4	11.9	17.2	-
Delta Temperature (°C)	0	8748	99.9	0.1	-	-7.3	2.1	-1.4	-0.3	0.4	0.8	1.1	-
Relative Humidity (%)	0	8748	99.9	70.5	-	16.1	101.7	43.5	57.1	73.5	85.8	92.3	-
Global Solar Radiation (W/m <sup>2</sup> )	0	8748	99.9	141.5	-	0.0	990.0	0.0	0.0	3.5	209.5	500.2	-
Precipitation (mm)	0	8748	99.9	-	347.4	0.0	101.6	0.0	0.0	0.0	0.0	0.0	-
Photosynthetically Active Radiation (µ)	0	8721	99.6	20.2	-	2.8	109.6	8.0	9.8	13.8	22.6	43.4	-
Std Dev Wind Direction (deg)	0	8721	99.6	2.6	-	0.0	12.0	1.2	1.7	2.3	3.2	4.3	-
Std Dev Wind Speed (kph)	0	8749	99.9	2.7	-	0.0	16.9	1.3	1.8	2.5	3.3	4.4	-

**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

WCAS / Carrot Creek Station 903													24 Hour Average Max (ppm)
January to December 2014													
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Total	Min	Max	P10	Q1	Percentile Median	Q3	P90	
SO <sub>2</sub> (ppb)	420	8339	100.0	0.3	-	0.0	9.6	0.0	0.0	0.1	0.4	0.7	0.004
O <sub>3</sub> (ppb)	419	8340	100.0	26.4	-	0.0	71.7	5.1	14.2	27.1	38.0	45.9	0.050
NO (ppb)	438	8321	100.0	1.6	-	0.0	77.0	0.0	0.1	0.1	0.8	3.5	-
NO <sub>2</sub> (ppb)	438	8321	100.0	5.1	-	0.0	46.5	1.1	1.8	3.3	6.2	12.0	0.022
NO <sub>x</sub> (ppb)	438	8321	100.0	6.7	-	0.0	104.4	1.2	1.9	3.7	7.5	14.4	-
Wind Speed (kph)	0	8701	99.3	7.0	-	0.0	31.2	1.5	3.1	5.9	9.8	14.0	-
Temperature (°C)	0	8701	99.3	2.5	-	-36.7	31.3	-15.7	-5.4	3.6	11.8	18.1	-
Relative Humidity (%)	0	8701	99.3	71.6	-	13.6	99.4	40.4	57.5	76.7	88.6	94.1	-
Photosynthetically Active Radiation (W/m <sup>2</sup> )	0	8760	100.0	67.0	-	0.0	465.8	0.0	0.0	3.5	99.5	238.8	-
Precipitation (mm)	0	8760	100.0	-	47.1	0.0	5.4	0.0	0.0	0.0	0.0	0.0	-
Std Dev Wind Direction (deg)	0	8701	99.3	28.8	-	3.4	110.5	10.2	13.9	21.1	36.2	63.1	-
Std Dev Wind Speed (kph)	0	8701	99.3	2.5	-	0.0	14.0	1.1	1.5	2.1	3.1	4.3	-



**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

WCAS / Steeper Station 905												24 Hour Average Max (ppm)
January to December 2014												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	
SO <sub>2</sub> (ppb)	420	8309	99.7	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.000
O <sub>3</sub> (ppb)	424	8305	99.7	35.0	0.0	68.1	19.8	27.4	35.8	42.5	49.4	0.049
NO (ppb)	435	8294	99.7	0.1	0.0	19.9	0.0	0.0	0.0	0.0	0.0	-
NO <sub>2</sub> (ppb)	435	8294	99.7	1.3	0.0	20.8	0.0	0.3	0.7	1.6	3.4	0.003
NO <sub>x</sub> (ppb)	435	8294	99.7	0.9	0.0	28.7	0.0	0.0	0.0	1.0	3.0	-
CO (ppm)	424	8305	99.7	0.1	0.0	2.6	0.0	0.0	0.0	0.1	0.2	0.000
Particulate Matter 2.5 microns (µ/m <sup>3</sup> )	20	8654	99.0	2.8	0.0	237.6	0.0	0.1	1.2	2.9	6.1	6.1 ug/m3
Wind Speed (kph)	0	8729	99.7	3.7	0.0	21.5	1.2	2.0	3.3	4.9	6.5	-
Temperature (°C)	0	8726	99.6	2.1	-35.2	28.6	-13.5	-3.8	3.1	9.7	15.5	-
Relative Humidity (%)	0	8729	99.7	61.9	5.6	98.0	32.1	44.3	62.2	81.2	91.5	-
Std Dev Wind Direction (deg)	0	8729	99.7	1.2	0.0	7.2	0.6	0.8	1.1	1.4	2.1	-
Std Dev Wind Speed (kph)	0	8729	99.7	27.1	0.0	111.2	9.6	11.7	17.6	36.5	60.9	-

**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

Weyerhaeuser / Drayton Valley Station 911											24 Hour Average Max ( $\mu\text{g}/\text{m}^3$ )	
January to December 2014												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Median	Q3	P90	
Particulate Matter 2.5 microns ( $\mu\text{m}^3$ )	4	8683	99.2	7.8	0.0	159.1	2.6	4.1	6.3	9.5	14.2	49.2
Wind Speed (kph)	0	8760	100.0	7.0	0.1	43.4	2.0	3.7	5.8	9.0	13.5	-
Temperature ( $^{\circ}\text{C}$ )	0	8760	100.0	3.7	-32.8	30.1	-13.4	-4.4	5.0	13.0	18.6	-
Std Dev Wind Direction (deg)	0	8760	100.0	26.4	0.2	104.5	11.1	14.6	20.8	31.8	50.5	-
Std Dev Wind Speed (kph)	0	8760	100.0	2.6	0.1	14.9	1.0	1.5	2.3	3.3	4.6	-

**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

Weyerhaeuser / Edson Station 912												24 Hour AveRage Max (ppm)
January to December 2014												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	
SO <sub>2</sub> (ppb)	419	8337	100.0	0.6	0.0	12.1	0.0	0.1	0.2	0.6	1.5	0.002
O <sub>3</sub> (ppb)	425	8330	99.9	24.6	0.0	66.2	3.7	11.9	24.9	36.7	45.3	0.045
NO (ppb)	439	8317	100.0	5.3	0.0	161.5	0.0	0.1	0.5	3.0	14.5	-
NO <sub>2</sub> (ppb)	439	8317	100.0	8.1	0.0	52.8	1.2	2.2	4.9	11.1	21.0	0.021
NOx (ppb)	439	8317	100.0	13.4	0.4	196.7	1.4	2.7	5.9	15.2	34.3	-
Particulate Matter 2.5 microns (μ/m <sup>3</sup> )	20	8712	99.7	4.6	0.0	117.2	0.1	1.3	3.0	5.9	10.4	10.4 ug/m3
Wind Speed (kph)	0	8666	98.9	7.1	0.0	38.8	1.8	3.7	6.4	9.8	13.2	-
Temperature (°C)	0	8756	100.0	2.8	-34.4	30.8	-14.7	-5.2	3.9	12.0	18.1	-
Std Dev Wind Direction (deg)	0	8666	98.9	28.1	4.7	106.2	9.7	13.3	20.6	35.5	60.9	-
Std Dev Wind Speed (kph)	0	8666	98.9	2.6	0.0	13.8	1.3	1.7	2.3	3.2	4.6	-

**Summary Report**

*Continuous air quality/meteorological monitoring measurements*

**West Central Airshed Society**

WCAS / Breton Station 913												
January to December 2014												
Parameter	Calibration Hours	Number of Data	Percent Uptime	Mean	Min	Max	P10	Q1	Percentile Median	Q3	P90	24 Hour Average Max (ppm)
SO <sub>2</sub> (ppb)	416	8344	100.0	0.3	0.0	17.9	0.0	0.0	0.0	0.0	0.7	0.004
O <sub>3</sub> (ppb)	419	8340	100.0	27.3	0.0	66.4	9.7	17.9	27.7	36.3	44.4	0.052
NO (ppb)	435	8322	100.0	0.5	0.0	24.9	0.0	0.0	0.0	0.2	1.4	-
NO <sub>2</sub> (ppb)	435	8322	100.0	3.6	0.0	37.5	0.7	1.3	2.4	4.5	8.1	0.021
NO <sub>x</sub> (ppb)	435	8322	100.0	4.0	0.0	48.6	0.5	1.1	2.4	5.0	9.3	-
Wind Speed (kph)	0	8760	100.0	7.4	0.0	44.5	1.2	2.9	5.7	10.5	15.8	-
Temperature (°C)	0	8760	100.0	3.3	-36.4	30.1	-14.6	-4.7	4.4	12.7	18.8	-
Relative Humidity (%)	0	8760	100.0	65.5	11.2	95.6	36.2	50.6	69.4	82.2	89.0	-
Std Dev Wind Direction (deg)	0	8760	100.0	28.6	0.1	107.9	11.2	14.1	20.7	35.8	61.8	-
Std Dev Wind Speed (kph)	0	8760	100.0	2.6	0.0	12.9	1.1	1.5	2.2	3.4	4.6	-

**West Central Airshed Society  
Frequency Distribution Charts  
SO<sub>2</sub> Monthly Averages  
Year 2014**

West Central Airshed Society - Tomahawk (AMS 901)  
 Annual Summary for 2014  
 SO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	709	0.5	2.5	5.2	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
February	644	1.0	3.5	12.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	708	1.3	8.2	39.9	100.0	0	0	99.15	0.85	0.00	0.00	0.00	0.00
April	686	0.6	3.1	12.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	709	0.6	2.9	15.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	686	0.3	2.3	13.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	701	0.3	0.8	5.4	99.3	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	705	0.4	1.9	8.5	99.5	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	686	0.3	1.6	7.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	707	0.3	2.2	9.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	686	0.5	2.5	7.0	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	709	0.4	2.2	13.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	8336	0.5	8.2	39.9	99.9	0	0	99.93	0.07	0.00	0.00	0.00	0.00

West Central Airshed Society - Violet Grove (AMS 902)  
 Annual Summary for 2014  
 SO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	706	0.4	1.5	27.9	100.0	0	0	99.72	0.28	0.00	0.00	0.00	0.00
February	640	0.9	3.1	16.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	709	1.2	10.9	46.7	100.0	0	0	99.29	0.71	0.00	0.00	0.00	0.00
April	686	0.4	2.6	11.0	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	706	0.3	1.7	5.2	99.7	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	686	0.2	1.0	5.3	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	706	0.2	0.6	3.3	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	699	0.2	1.1	5.5	98.9	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	672	0.2	0.7	3.9	98.3	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	708	0.2	1.1	2.9	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	683	0.4	2.0	4.7	99.9	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	709	0.4	1.7	6.5	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	8310	0.4	10.9	46.7	99.7	0	0	99.93	0.07	0.00	0.00	0.00	0.00

West Central Airshed Society - Carrot Creek (AMS 903)  
 Annual Summary for 2014  
 SO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	709	0.3	1.0	3.2	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
February	638	0.7	2.5	8.1	99.9	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	708	1.1	4.0	9.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
April	686	0.3	1.8	8.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	710	0.1	0.6	2.9	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	685	0.1	0.4	3.3	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	706	0.3	1.7	6.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	709	0.1	0.6	1.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	686	0.0	0.2	0.9	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	708	0.1	0.7	3.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	686	0.3	1.0	4.5	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	708	0.3	0.8	4.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	8339	0.3	4.0	9.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00



West Central Airshed Society - Steeper (AMS 905)  
 Annual Summary for 2014  
 SO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	709	0.0	0.0	0.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
February	641	0.1	0.7	5.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	708	0.2	0.9	2.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
April	687	0.0	0.5	3.9	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	707	0.0	0.5	2.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	685	0.0	0.3	3.3	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	705	0.0	0.2	1.2	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	690	0.0	0.1	1.2	97.3	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	674	0.0	0.0	0.1	98.5	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	709	0.0	0.1	1.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	686	0.0	0.1	1.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	708	0.0	0.0	0.2	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	8309	0.0	0.9	5.4	99.7	0	0	100.00	0.00	0.00	0.00	0.00	0.00

West Central Airshed Society - Edson (AMS 912)  
 Annual Summary for 2014  
 SO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	710	0.6	2.0	12.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
February	639	1.2	2.5	11.8	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	709	0.9	3.1	8.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
April	686	0.4	1.7	9.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	709	0.3	1.0	8.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	685	0.2	0.9	7.2	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	706	0.5	1.8	9.9	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	706	0.4	1.5	8.8	99.6	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	685	0.1	0.7	3.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	707	0.3	0.9	7.6	99.9	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	686	0.6	1.9	7.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	709	1.2	3.0	5.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	8337	0.6	3.1	12.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00

West Central Airshed Society - Breton (AMS 913)  
 Annual Summary for 2014  
 SO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range					
								<=0.02	>0.02-0.06	>0.06-0.11	>0.11-0.17	>0.17-0.34	>0.34
January	709	0.3	2.6	9.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
February	640	0.8	4.4	16.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
March	709	0.7	3.3	17.9	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
April	686	0.3	2.1	11.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
May	709	0.2	1.1	6.4	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
June	687	0.2	1.2	13.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
July	705	0.2	0.8	8.0	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
August	709	0.3	2.2	17.1	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
September	686	0.2	2.1	11.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
October	709	0.1	1.9	9.0	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
November	685	0.3	2.5	11.6	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
December	710	0.2	2.5	9.7	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00
Annual	8344	0.3	4.4	17.9	100.0	0	0	100.00	0.00	0.00	0.00	0.00	0.00

**West Central Airshed Society  
Frequency Distribution Charts  
NO<sub>2</sub> Monthly Averages  
Year 2014**

West Central Airshed Society - Tomahawk (AMS 901)  
 Annual Summary for 2014  
 NO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	707	7.3	19.7	27.9	100.0	0	0	100.00	0	0	0
February	644	8.0	19.6	28.5	100.0	0	0	100.00	0	0	0
March	708	5.1	12.8	30.1	100.0	0	0	100.00	0	0	0
April	684	3.5	9.8	20.3	100.0	0	0	100.00	0	0	0
May	708	2.5	4.7	13.6	100.0	0	0	100.00	0	0	0
June	685	2.8	5.9	28.6	100.0	0	0	100.00	0	0	0
July	697	2.9	5.2	19.2	99.3	0	0	100.00	0	0	0
August	704	3.2	5.7	12.2	99.5	0	0	100.00	0	0	0
September	684	3.0	5.5	17.6	100.0	0	0	100.00	0	0	0
October	684	4.4	8.6	19.9	97.9	0	0	100.00	0	0	0
November	684	6.2	17.5	24.7	99.9	0	0	100.00	0	0	0
December	707	9.7	19.1	33.1	100.0	0	0	100.00	0	0	0
Annual	8296	4.9	19.7	33.1	99.7	0	0	100.00	0	0	0

West Central Airshed Society - Violet Grove (AMS 902)  
 Annual Summary for 2014  
 NO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	706	8.8	17.8	27.6	100.0	0	0	100.00	0	0	0
February	639	10.3	24.6	36.4	100.0	0	0	100.00	0	0	0
March	708	7.8	21.8	44.8	100.0	0	0	100.00	0	0	0
April	685	6.1	12.5	21.8	100.0	0	0	100.00	0	0	0
May	706	5.0	6.6	12.5	99.7	0	0	100.00	0	0	0
June	686	4.7	6.4	12.4	100.0	0	0	100.00	0	0	0
July	704	4.0	5.3	14.1	100.0	0	0	100.00	0	0	0
August	707	3.5	4.9	12.7	100.0	0	0	100.00	0	0	0
September	672	3.5	7.0	17.0	98.3	0	0	100.00	0	0	0
October	707	4.3	6.9	15.4	100.0	0	0	100.00	0	0	0
November	683	6.7	15.8	23.7	99.9	0	0	100.00	0	0	0
December	708	9.2	19.8	26.3	100.0	0	0	100.00	0	0	0
Annual	8311	6.1	24.6	44.8	99.8	0	0	100.00	0	0	0

West Central Airshed Society - Carrot Creek (AMS 903)  
 Annual Summary for 2014  
 NO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	708	5.5	18.2	28.9	100.0	0	0	100.00	0	0	0
February	638	8.4	18.1	46.5	99.9	0	0	100.00	0	0	0
March	702	6.1	13.3	35.6	100.0	0	0	100.00	0	0	0
April	685	4.1	12.3	33.1	100.0	0	0	100.00	0	0	0
May	708	2.6	4.2	13.4	100.0	0	0	100.00	0	0	0
June	684	2.4	3.5	10.9	100.0	0	0	100.00	0	0	0
July	704	2.8	6.7	14.6	100.0	0	0	100.00	0	0	0
August	708	3.0	4.7	12.7	100.0	0	0	100.00	0	0	0
September	685	3.0	5.4	18.9	100.0	0	0	100.00	0	0	0
October	708	5.2	10.8	24.2	100.0	0	0	100.00	0	0	0
November	684	6.8	13.4	38.1	100.0	0	0	100.00	0	0	0
December	707	11.8	21.8	33.7	100.0	0	0	100.00	0	0	0
Annual	8321	5.1	21.8	46.5	100.0	0	0	100.00	0	0	0

West Central Airshed Society - Steeper (AMS 905)  
 Annual Summary for 2014  
 NO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	708	1.2	4.2	12.7	100.0	0	0	100.00	0	0	0
February	639	2.7	6.2	20.8	100.0	0	0	100.00	0	0	0
March	707	2.4	6.4	17.7	100.0	0	0	100.00	0	0	0
April	686	1.2	4.5	8.6	100.0	0	0	100.00	0	0	0
May	707	1.0	2.7	6.1	100.0	0	0	100.00	0	0	0
June	683	0.6	1.4	5.4	100.0	0	0	100.00	0	0	0
July	702	0.8	2.3	12.8	100.0	0	0	100.00	0	0	0
August	689	0.9	1.8	4.3	97.3	0	0	100.00	0	0	0
September	673	0.8	2.2	5.3	98.5	0	0	100.00	0	0	0
October	707	0.9	4.0	11.1	100.0	0	0	100.00	0	0	0
November	685	1.9	5.6	15.8	100.0	0	0	100.00	0	0	0
December	708	1.0	2.5	9.6	100.0	0	0	100.00	0	0	0
Annual	8294	1.3	6.4	20.8	99.7	0	0	100.00	0	0	0



West Central Airshed Society - Edson (AMS 912)  
 Annual Summary for 2014  
 NO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	709	11.8	23.0	42.1	100.0	0	0	100.00	0	0	0
February	638	14.4	25.2	49.0	100.0	0	0	100.00	0	0	0
March	707	7.1	17.6	44.5	100.0	0	0	100.00	0	0	0
April	685	6.1	14.4	32.6	100.0	0	0	100.00	0	0	0
May	707	4.2	8.3	25.1	100.0	0	0	100.00	0	0	0
June	682	3.2	5.3	15.5	100.0	0	0	100.00	0	0	0
July	705	3.7	6.0	16.1	100.0	0	0	100.00	0	0	0
August	705	5.1	11.4	41.0	99.6	0	0	100.00	0	0	0
September	684	4.7	9.7	20.4	100.0	0	0	100.00	0	0	0
October	703	7.6	12.8	28.1	99.9	0	0	100.00	0	0	0
November	685	11.2	23.9	40.2	100.0	0	0	100.00	0	0	0
December	707	18.9	32.1	52.8	100.0	0	0	99.86	0.14	0	0
Annual	8317	8.1	32.1	52.8	100.0	0	0	99.99	0.01	0	0

West Central Airshed Society - Breton (AMS 913)  
 Annual Summary for 2014  
 NO2 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations	Percent of Data in each Concentration Range			
								<=0.05	>0.05-0.11	>0.11-0.21	>0.21
January	707	5.2	13.4	26.0	99.9	0	0	100.00	0	0	0
February	638	5.1	14.1	33.5	100.0	0	0	100.00	0	0	0
March	707	11.6	28.8	62.4	100.0	0	0	98.87	1.13	0	0
April	685	3.7	5.9	16.3	100.0	0	0	100.00	0	0	0
May	709	1.6	2.3	6.9	100.0	0	0	100.00	0	0	0
June	685	1.6	3.2	8.9	100.0	0	0	100.00	0	0	0
July	703	1.5	2.3	7.7	99.7	0	0	100.00	0	0	0
August	707	2.1	4.5	10.6	100.0	0	0	100.00	0	0	0
September	685	4.4	6.2	11.0	100.0	0	0	100.00	0	0	0
October	706	4.3	7.2	16.7	99.9	0	0	100.00	0	0	0
November	293	10.7	22.2	33.8	43.2	0	0	100.00	0	0	0
December	709	7.7	18.9	42.3	100.0	0	0	100.00	0	0	0
Annual	7934	4.7	28.8	62.4	95.3	0	0	99.90	0.1	0	0

**West Central Airshed Society  
Frequency Distribution Charts  
O<sub>3</sub> Monthly Averages  
Year 2014**

West Central Airshed Society - Tomahawk (AMS 901)  
 Annual Summary for 2014  
 O3 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 1-Hour Violations
January	709	32.1	48.6	53.0	100.0	0
February	644	29.8	39.8	46.4	100.0	0
March	708	38.3	47.3	57.7	100.0	0
April	686	42.8	54.2	67.3	100.0	0
May	708	36.2	44.9	55.9	100.0	0
June	686	27.4	36.2	58.2	100.0	0
July	701	25.9	36.3	57.1	99.3	0
August	704	22.9	30.7	51.3	99.5	0
September	686	19.7	30.0	54.1	100.0	0
October	707	22.0	36.5	44.1	100.0	0
November	686	21.5	35.8	40.2	100.0	0
December	709	18.6	38.7	42.4	100.0	0
Annual	8334	28.1	54.2	67.3	99.9	0

West Central Airshed Society - Violet Grove (AMS 902)  
 Annual Summary for 2014  
 O3 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 1-Hour Violations
January	706	30.2	42.9	50.9	100.0	0
February	640	32.3	43.0	49.1	100.0	0
March	709	40.3	52.3	61.1	100.0	0
April	686	41.3	49.4	62.1	100.0	0
May	706	39.7	50.1	63.6	99.7	0
June	686	35.5	44.7	68.4	100.0	0
July	706	29.9	42.6	60.7	100.0	0
August	708	26.4	36.1	69.0	100.0	0
September	672	21.1	34.1	52.9	98.3	0
October	708	23.9	35.2	43.3	100.0	0
November	684	22.3	33.3	40.4	100.0	0
December	709	21.1	35.5	39.3	100.0	0
Annual	8320	30.3	52.3	69.0	99.8	0

West Central Airshed Society - Carrot Creek (AMS 903)  
 Annual Summary for 2014  
 O3 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 1-Hour Violations
January	709	33.0	49.2	55.2	100.0	0
February	640	28.7	41.6	52.6	100.0	0
March	708	37.0	50.1	60.2	100.0	0
April	686	37.7	48.5	61.1	100.0	0
May	710	33.9	41.0	57.7	100.0	0
June	685	30.5	38.7	59.2	100.0	0
July	705	27.1	42.6	71.7	99.9	0
August	709	21.5	33.5	57.4	100.0	0
September	686	17.0	27.5	54.7	100.0	0
October	708	17.2	33.0	45.0	100.0	0
November	686	18.7	33.5	40.7	100.0	0
December	708	15.0	34.0	39.6	100.0	0
Annual	8340	26.4	50.1	71.7	100.0	0

West Central Airshed Society - Edson (AMS 912)  
 Annual Summary for 2014  
 O3 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 1-Hour Violations
January	708	26.7	47.3	55.0	100.0	0
February	639	23.9	40.6	50.1	100.0	0
March	708	36.2	49.4	56.6	100.0	0
April	686	35.8	46.9	60.0	100.0	0
May	707	32.5	40.9	56.3	100.0	0
June	685	29.9	37.2	59.4	100.0	0
July	705	27.7	42.8	66.2	99.9	0
August	706	21.8	39.5	54.2	99.6	0
September	685	17.0	24.7	50.3	100.0	0
October	706	17.1	32.6	45.0	99.9	0
November	686	16.5	28.4	39.9	100.0	0
December	709	10.6	27.5	40.3	100.0	0
Annual	8330	24.6	49.4	66.2	99.9	0

West Central Airshed Society - Breton (AMS 913)  
 Annual Summary for 2014  
 O3 (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 1-Hour Violations
January	709	28.6	41.1	44.7	100.0	0
February	640	29.3	40.5	47.4	100.0	0
March	708	37.9	49.9	60.7	99.9	0
April	686	41.4	51.9	66.4	100.0	0
May	709	34.4	44.7	58.3	100.0	0
June	686	29.9	43.1	63.5	100.0	0
July	705	26.5	37.6	63.7	100.0	0
August	709	22.8	30.3	59.9	100.0	0
September	686	17.8	28.7	51.6	100.0	0
October	709	19.6	32.2	42.5	100.0	0
November	685	20.4	33.8	37.3	100.0	0
December	708	19.8	33.1	37.3	100.0	0
Annual	8340	27.3	51.9	66.4	100.0	0



**West Central Airshed Society  
Frequency Distribution Charts  
CO Monthly Averages  
Year 2014**

West Central Airshed Society - Steeper (AMS 905)  
 Annual Summary for 2014  
 CO (ppb)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations
January	709	0.137	0.398	2.585	100.0	0	0
February	638	0.134	0.227	0.350	100.0	0	0
March	708	0.147	0.185	0.286	100.0	0	0
April	687	0.150	0.188	0.292	100.0	0	0
May	706	0.067	0.155	0.180	100.0	0	0
June	685	0.000	0.000	0.002	100.0	0	0
July	706	0.035	0.391	1.083	100.0	0	0
August	690	0.018	0.115	0.225	97.3	0	0
September	674	0.001	0.016	0.120	98.5	0	0
October	708	0.000	0.002	0.045	100.0	0	0
November	686	0.000	0.003	0.049	100.0	0	0
December	708	0.018	0.178	1.784	100.0	0	0
Annual	8305	0.059	0.398	2.585	99.7	0	0

**West Central Airshed Society  
Frequency Distribution Charts  
THC Monthly Averages  
Year 2014**

West Central Airshed Society - Violet Grove (AMS 902)  
 Annual Summary for 2014  
 THC (ppm)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations
January	648	2.32	3.29	8.62	91.1	0	0
February	638	2.53	3.39	4.79	99.7	0	0
March	538	2.38	3.23	8.04	76.5	0	0
April	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-
September	475	2.05	2.36	5.34	69.7	0	0
October	708	2.27	2.89	10.91	100.0	0	1
November	682	2.44	3.00	8.55	99.7	0	0
December	707	2.62	3.32	7.36	100.0	0	0
Annual	4396	2.39	3.39	10.91	91.0	0	1

**West Central Airshed Society  
Frequency Distribution Charts  
PM Monthly Averages  
Year 2014**

West Central Airshed Society - Tomahawk (AMS 901)  
 Annual Summary for 2014  
 PM<sub>2.5</sub> (µg/m<sup>3</sup>)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations
January	742	2.4	7.0	44.4	99.7	0	0
February	672	3.8	12.1	19.1	100.0	0	0
March	738	2.2	6.9	14.4	99.2	0	0
April	718	2.7	7.4	18.4	99.7	0	0
May	738	2.8	5.4	10.3	99.9	0	0
June	719	2.6	5.2	12.9	99.9	0	0
July	724	7.3	29.3	73.4	97.9	0	0
August	729	6.7	20.1	32.4	98.5	0	0
September	719	3.1	12.2	27.9	99.9	0	0
October	740	3.7	12.6	19.1	99.5	0	0
November	720	5.7	13.2	28.3	100.0	0	0
December	744	6.6	24.9	35.4	100.0	0	0
Annual	8703	4.1	29.3	73.4	99.5	0	0

West Central Airshed Society - Steeper (AMS 905)  
 Annual Summary for 2014  
 PM<sub>2.5</sub> (µg/m<sup>3</sup>)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations
January	741	1.7	17.2	196.0	100.0	0	2
February	672	2.1	8.8	15.4	100.0	0	0
March	743	2.1	5.2	15.6	99.9	0	0
April	717	2.0	6.3	10.8	100.0	0	0
May	744	1.7	3.9	6.2	100.0	0	0
June	717	1.9	6.2	15.0	99.6	0	0
July	724	8.8	65.7	178.4	98.5	2	14
August	709	7.1	31.8	64.5	95.3	1	0
September	696	1.5	10.0	20.1	96.7	0	0
October	739	0.9	2.9	5.6	100.0	0	0
November	717	1.2	4.1	11.1	99.6	0	0
December	735	3.2	30.0	237.6	98.8	0	5
Annual	8654	2.8	65.7	237.6	99.0	3	21

West Central Airshed Society - Drayton Valley (AMS 911)  
 Annual Summary for 2014  
 PM<sub>2.5</sub> (µg/m<sup>3</sup>)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations
January	744	6.3	12.6	58.6	100.0	0	0
February	670	7.3	16.7	29.0	99.7	0	0
March	744	6.4	10.4	28.1	100.0	0	0
April	720	7.1	10.9	24.7	100.0	0	0
May	742	6.9	10.4	37.2	99.7	0	0
June	719	6.6	9.8	25.6	99.9	0	0
July	707	12.4	49.2	159.0	95.6	1	4
August	742	11.1	29.1	46.2	99.7	0	0
September	717	6.5	14.2	39.7	99.6	0	0
October	742	5.4	16.2	24.6	99.7	0	0
November	697	7.9	18.6	113.1	96.8	0	1
December	739	9.1	22.9	47.1	99.3	0	0
Annual	8683	7.8	49.2	159.0	99.2	1	5



West Central Airshed Society - Edson (AMS 912)  
 Annual Summary for 2014  
 PM<sub>2.5</sub> (µg/m<sup>3</sup>)

Month	Number of Data	Mean	Maximum 24-Hour Value	Maximum 1-Hour Value	Operational Time (%)	Number 24-Hour Violations	Number 1-Hour Violations
January	741	3.6	18.6	32.3	99.6	0	0
February	671	4.7	12.0	19.6	99.9	0	0
March	744	2.9	6.0	30.2	100.0	0	0
April	715	3.6	11.6	24.1	99.9	0	0
May	744	2.9	6.2	12.3	100.0	0	0
June	717	3.1	7.4	22.6	99.6	0	0
July	733	9.1	43.9	117.2	99.6	1	4
August	732	9.2	22.3	37.3	98.5	0	0
September	715	3.2	11.6	25.3	99.3	0	0
October	737	2.8	9.8	13.8	100.0	0	0
November	719	4.0	10.7	35.1	99.9	0	0
December	744	5.6	19.5	32.9	100.0	0	0
Annual	8712	4.6	43.9	117.2	99.7	1	4

**West Central Airshed Society  
Frequency Distribution Charts  
Wind Speed and Direction  
Year 2014**

West Central Airshed Society - Tomahawk (AMS 901)  
 Annual Summary for 2014  
 Percentage Frequency Distribution of Wind

Speed (kph)							
Direction	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	Totals
N	1.29	2.76	2.29	0.63	0.13	0.00	7.09
NNE	0.96	1.85	0.85	0.23	0.04	0.00	3.93
NE	1.22	1.33	0.56	0.01	0.00	0.00	3.12
ENE	1.00	1.55	0.48	0.00	0.00	0.00	3.04
E	1.06	2.79	0.96	0.01	0.00	0.00	4.83
ESE	1.37	4.01	1.87	0.19	0.00	0.00	7.43
SE	1.33	3.30	1.95	0.28	0.00	0.00	6.86
SSE	1.64	2.69	1.29	0.20	0.00	0.00	5.81
S	2.14	1.45	0.41	0.04	0.00	0.00	4.03
SSW	2.40	1.12	0.05	0.00	0.00	0.00	3.56
SW	3.32	4.08	0.36	0.00	0.00	0.00	7.76
WSW	3.69	6.91	0.61	0.00	0.00	0.00	11.21
W	2.14	3.83	0.49	0.04	0.00	0.00	6.50
WNW	1.33	2.56	1.12	0.26	0.04	0.00	5.30
NW	0.86	2.24	3.56	1.25	0.34	0.05	8.31
NNW	1.04	3.31	3.91	2.57	0.34	0.06	11.23
Totals	26.78	45.77	20.76	5.70	0.88	0.11	100.00

Number of Data Values	8558
Hours in Time Period	8760

West Central Airshed Society - Violet Grove (AMS 902)  
 Annual Summary for 2014  
 Percentage Frequency Distribution of Wind

Speed (kph)							
Direction	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	Totals
N	0.62	1.56	1.26	0.44	0.02	0.00	3.91
NNE	0.62	1.12	0.74	0.14	0.00	0.00	2.61
NE	0.49	1.10	0.57	0.02	0.00	0.00	2.18
ENE	0.88	1.73	0.44	0.00	0.00	0.00	3.05
E	1.67	3.00	0.50	0.00	0.00	0.00	5.17
ESE	1.52	2.51	0.79	0.01	0.00	0.00	4.83
SE	1.97	4.01	1.86	0.49	0.00	0.00	8.33
SSE	1.91	3.17	1.21	0.09	0.00	0.00	6.39
S	1.74	2.80	1.04	0.02	0.00	0.00	5.60
SSW	1.72	2.91	1.32	0.04	0.00	0.00	5.97
SW	1.74	3.89	1.68	0.02	0.00	0.00	7.33
WSW	2.26	4.56	0.82	0.01	0.00	0.00	7.65
W	1.86	7.41	2.29	0.09	0.02	0.00	11.67
WNW	1.63	3.83	2.67	0.57	0.14	0.05	8.89
NW	1.11	2.29	3.75	1.87	0.44	0.14	9.59
NNW	0.72	1.67	2.39	1.59	0.43	0.01	6.81
Totals	22.45	47.55	23.33	5.41	1.06	0.20	100.00

Number of Data Values		8576
Hours in Time Period		8760

West Central Airshed Society - Carrot Creek (AMS 903)  
 Annual Summary for 2014  
 Percentage Frequency Distribution of Wind

Direction	Speed (kph)						Totals
	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	
N	1.72	1.43	0.48	0.00	0.00	0.00	3.63
NNE	1.42	0.44	0.00	0.00	0.00	0.00	1.86
NE	1.63	0.88	0.15	0.00	0.00	0.00	2.66
ENE	2.26	2.28	0.49	0.00	0.00	0.00	5.03
E	2.26	5.04	1.56	0.04	0.00	0.00	8.89
ESE	2.15	2.66	0.63	0.01	0.00	0.00	5.44
SE	1.64	0.96	0.12	0.00	0.00	0.00	2.72
SSE	1.52	0.33	0.02	0.00	0.00	0.00	1.88
S	1.72	0.36	0.04	0.00	0.00	0.00	2.11
SSW	4.65	0.72	0.10	0.00	0.00	0.00	5.47
SW	7.52	3.14	0.23	0.00	0.00	0.00	10.89
WSW	5.04	3.95	0.69	0.09	0.00	0.00	9.76
W	3.31	6.57	3.48	0.83	0.05	0.00	14.25
WNW	2.64	4.29	3.16	0.83	0.06	0.00	10.98
NW	1.88	2.84	2.87	0.80	0.04	0.00	8.42
NNW	1.95	2.39	1.56	0.12	0.00	0.00	6.02
Totals	43.28	38.29	15.57	2.72	0.15	0.00	100.00

Number of Data Values		8157
Hours in Time Period		8760

West Central Airshed Society - Steeper (AMS 905)  
 Annual Summary for 2014  
 Percentage Frequency Distribution of Wind

Direction	Speed (kph)						Totals
	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	
N	1.65	0.00	0.00	0.00	0.00	0.00	1.65
NNE	3.55	0.22	0.00	0.00	0.00	0.00	3.77
NE	6.90	0.33	0.00	0.00	0.00	0.00	7.24
ENE	10.19	0.51	0.00	0.00	0.00	0.00	10.70
E	4.14	0.16	0.00	0.00	0.00	0.00	4.30
ESE	1.19	0.05	0.00	0.00	0.00	0.00	1.24
SE	0.79	0.00	0.00	0.00	0.00	0.00	0.79
SSE	0.74	0.00	0.00	0.00	0.00	0.00	0.74
S	1.03	0.00	0.00	0.00	0.00	0.00	1.03
SSW	7.83	2.08	0.00	0.00	0.00	0.00	9.91
SW	25.31	7.86	0.21	0.00	0.00	0.00	33.37
WSW	7.73	6.73	0.87	0.02	0.00	0.00	15.35
W	4.90	0.30	0.00	0.00	0.00	0.00	5.20
WNW	1.77	0.00	0.00	0.00	0.00	0.00	1.77
NW	1.56	0.00	0.00	0.00	0.00	0.00	1.56
NNW	1.39	0.00	0.00	0.00	0.00	0.00	1.39
Totals	80.67	18.23	1.08	0.02	0.00	0.00	100.00

Number of Data Values		8084
Hours in Time Period		8760

West Central Airshed Society - Drayton Valley (AMS 911)  
 Annual Summary for 2014  
 Percentage Frequency Distribution of Wind

Speed (kph)							
Direction	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	Totals
N	1.38	2.37	0.45	0.00	0.00	0.00	4.20
NNE	1.83	1.60	0.17	0.00	0.00	0.00	3.60
NE	2.68	2.71	0.06	0.00	0.00	0.00	5.45
ENE	2.79	1.41	0.02	0.00	0.00	0.00	4.23
E	3.00	0.88	0.00	0.00	0.00	0.00	3.88
ESE	2.43	2.04	0.07	0.00	0.00	0.00	4.55
SE	1.78	2.67	1.09	0.13	0.00	0.00	5.67
SSE	3.61	2.07	0.62	0.02	0.00	0.00	6.31
S	10.33	5.47	0.06	0.00	0.00	0.00	15.86
SSW	3.64	4.60	0.24	0.00	0.00	0.00	8.49
SW	1.50	1.19	0.08	0.00	0.00	0.00	2.77
WSW	1.63	1.27	0.15	0.01	0.01	0.00	3.07
W	1.85	1.92	0.57	0.04	0.01	0.00	4.39
WNW	2.07	4.08	2.56	0.74	0.14	0.02	9.61
NW	2.10	4.06	4.01	1.29	0.18	0.00	11.64
NNW	1.31	2.56	2.05	0.37	0.00	0.00	6.29
Totals	43.91	40.91	12.21	2.60	0.34	0.02	100.00

Number of Data Values		8426
Hours in Time Period		8760

West Central Airshed Society - Edson (AMS 912)  
 Annual Summary for 2014  
 Percentage Frequency Distribution of Wind

Direction	Speed (kph)						Totals
	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	
N	1.40	2.71	1.78	0.06	0.00	0.00	5.95
NNE	1.85	4.11	1.95	0.00	0.00	0.00	7.91
NE	1.95	5.05	3.02	0.12	0.00	0.00	10.14
ENE	1.31	2.25	2.50	0.26	0.00	0.00	6.32
E	0.63	0.58	0.45	0.10	0.00	0.00	1.77
ESE	0.50	0.23	0.19	0.04	0.00	0.00	0.96
SE	0.68	0.33	0.05	0.00	0.00	0.00	1.06
SSE	0.65	0.18	0.05	0.00	0.00	0.00	0.88
S	0.85	0.18	0.00	0.00	0.00	0.00	1.03
SSW	1.25	0.46	0.04	0.00	0.00	0.00	1.75
SW	2.69	3.23	0.21	0.00	0.00	0.00	6.12
WSW	9.95	11.32	1.87	0.44	0.02	0.01	23.62
W	8.96	8.25	1.67	0.28	0.05	0.00	19.21
WNW	2.07	2.46	0.91	0.15	0.00	0.00	5.59
NW	1.78	1.52	0.15	0.00	0.00	0.00	3.45
NNW	1.53	2.13	0.56	0.01	0.00	0.00	4.24
Totals	38.06	45.02	15.39	1.45	0.07	0.01	100.00

Number of Data Values		8212
Hours in Time Period		8760



West Central Airshed Society - Breton (AMS 913)  
 Annual Summary for 2014  
 Percentage Frequency Distribution of Wind

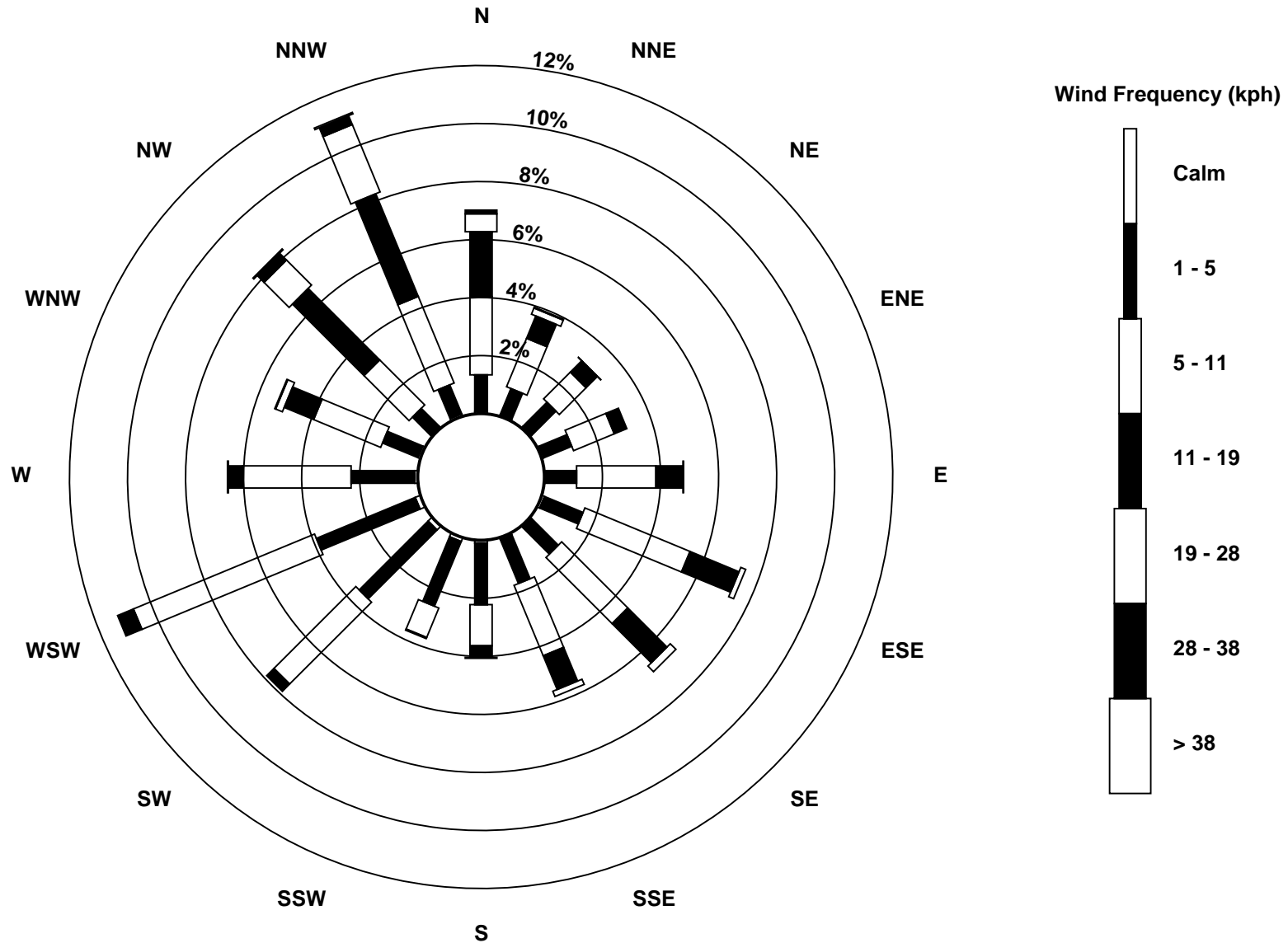
Speed (kph)							
Direction	>1 to 5	>5 to 11	>11 to 19	>19 to 28	>28 to 38	>38	Totals
N	1.31	2.45	2.52	0.56	0.14	0.00	6.99
NNE	1.18	1.70	0.96	0.14	0.01	0.00	3.99
NE	0.94	1.70	1.10	0.19	0.00	0.00	3.93
ENE	1.10	1.93	0.83	0.05	0.00	0.00	3.91
E	1.05	1.38	0.29	0.00	0.00	0.00	2.72
ESE	1.88	1.05	0.10	0.00	0.00	0.00	3.03
SE	12.37	3.16	0.29	0.00	0.00	0.00	15.82
SSE	9.42	5.45	1.52	0.24	0.00	0.00	16.62
S	2.07	1.58	2.13	0.71	0.00	0.00	6.49
SSW	1.25	0.86	0.38	0.05	0.00	0.00	2.54
SW	1.31	0.56	0.08	0.00	0.00	0.00	1.95
WSW	1.35	0.58	0.18	0.00	0.00	0.00	2.10
W	1.47	0.89	0.11	0.05	0.01	0.00	2.53
WNW	2.14	2.53	0.99	0.04	0.04	0.00	5.74
NW	2.48	3.91	2.68	0.60	0.09	0.05	9.81
NNW	1.89	3.59	4.23	1.80	0.30	0.01	11.83
Totals	43.22	33.32	18.37	4.43	0.59	0.06	100.00

Number of Data Values		7985
Hours in Time Period		8760

WCAS - Tomahawk  
Wind Speed Rose



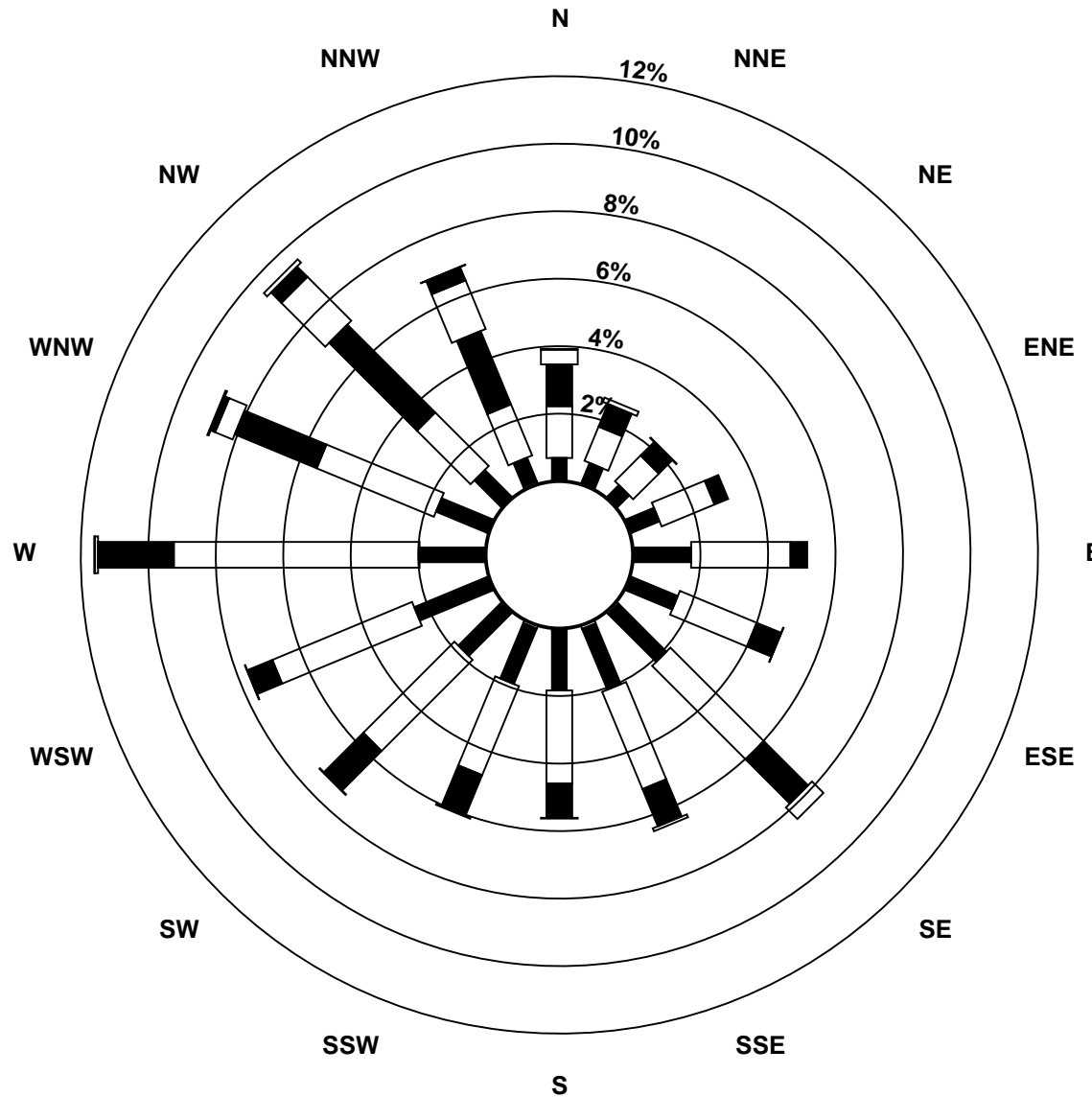
Wind Speed (WS) - kph  
2014



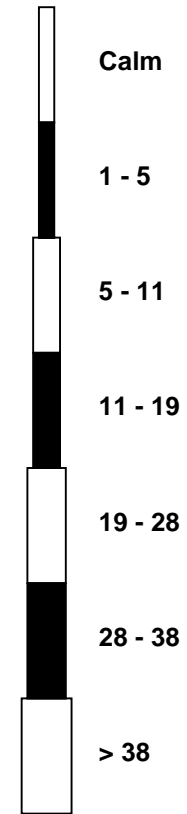
WCAS - Violet Grove  
Wind Speed Rose



Wind Speed (WS) - kph  
2014



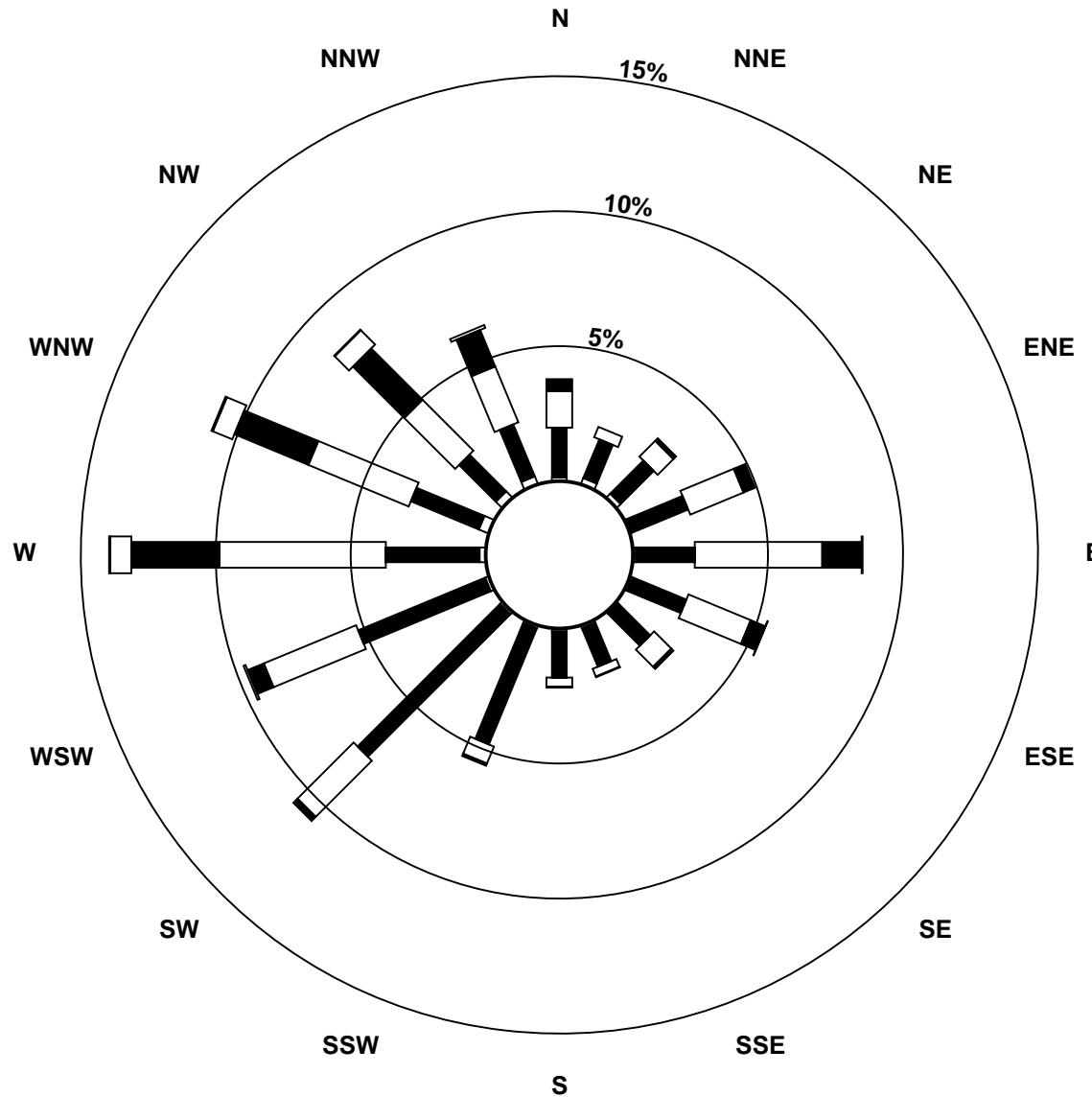
Wind Frequency (kph)



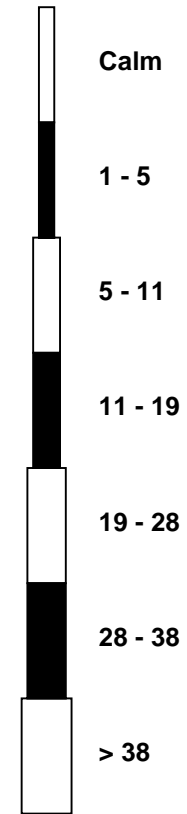
WCAS - Carrot Creek  
Wind Speed Rose



Wind Speed (WS) - kph  
2014



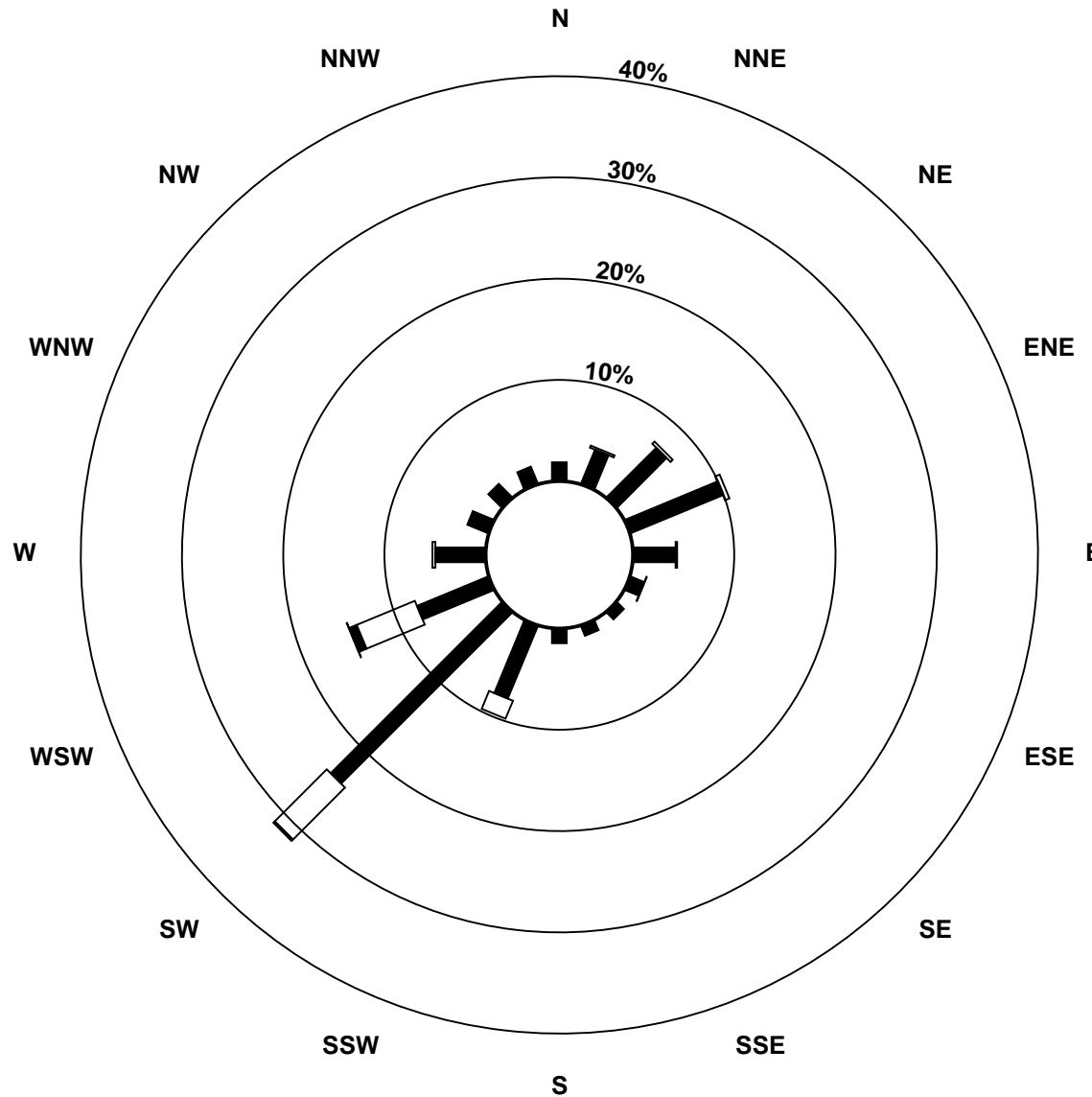
Wind Frequency (kph)



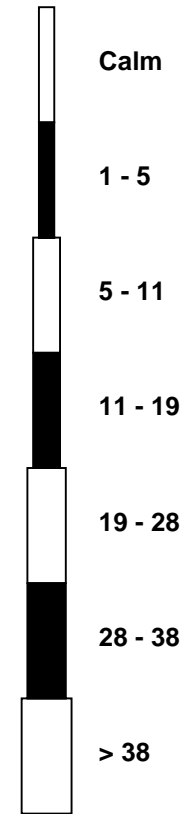
**WCAS - Steeper  
Wind Speed Rose**



**Wind Speed (WS) - kph  
2014**



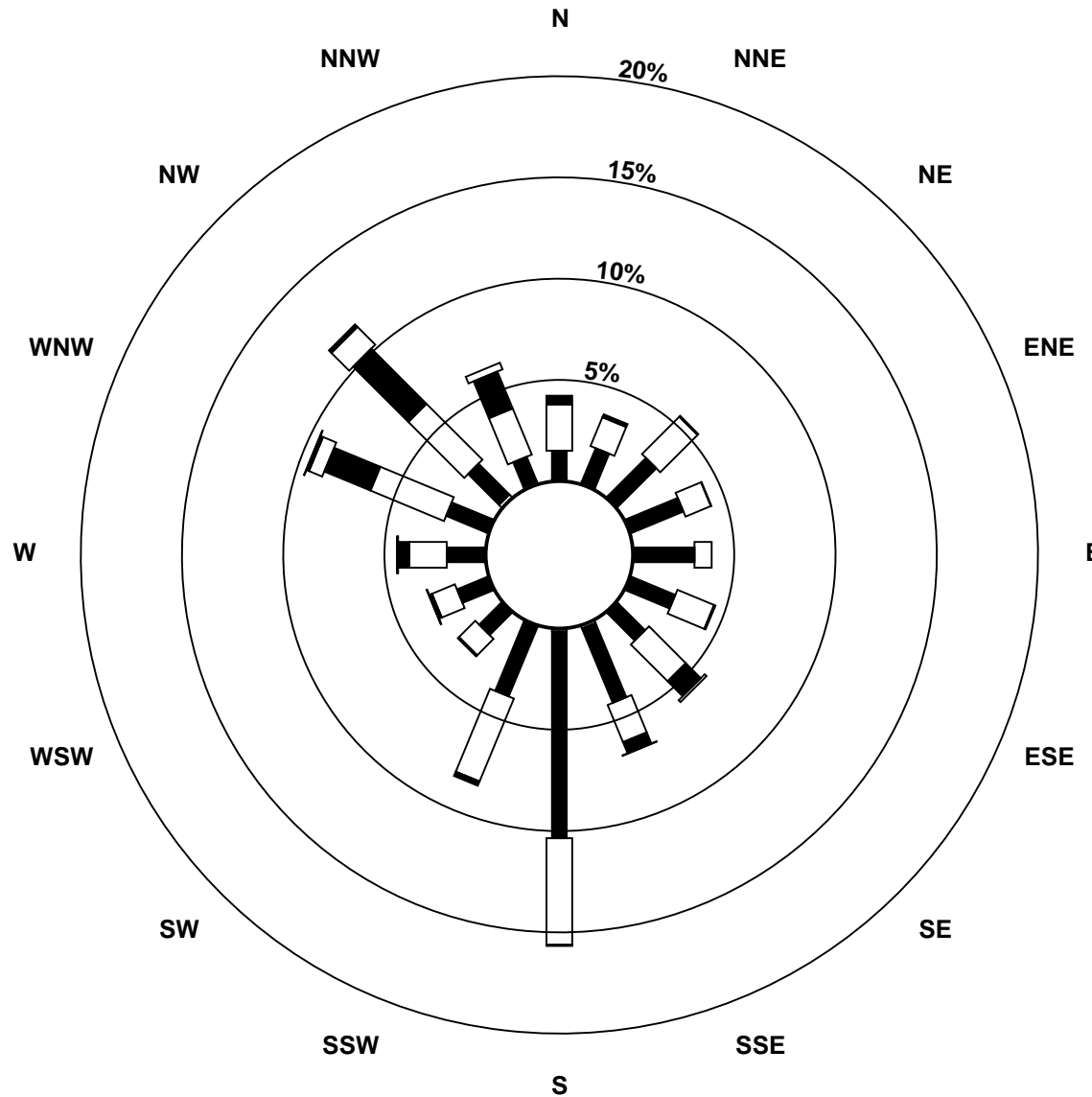
**Wind Frequency (kph)**



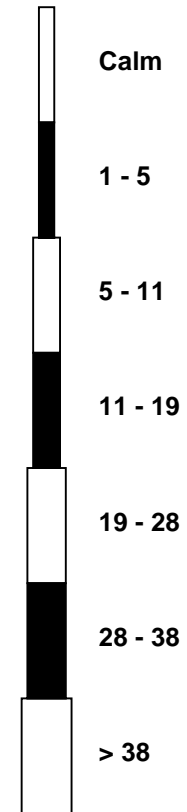
**WCAS - Drayton Valley  
Wind Speed Rose**



**Wind Speed (WS) - kph  
2014**



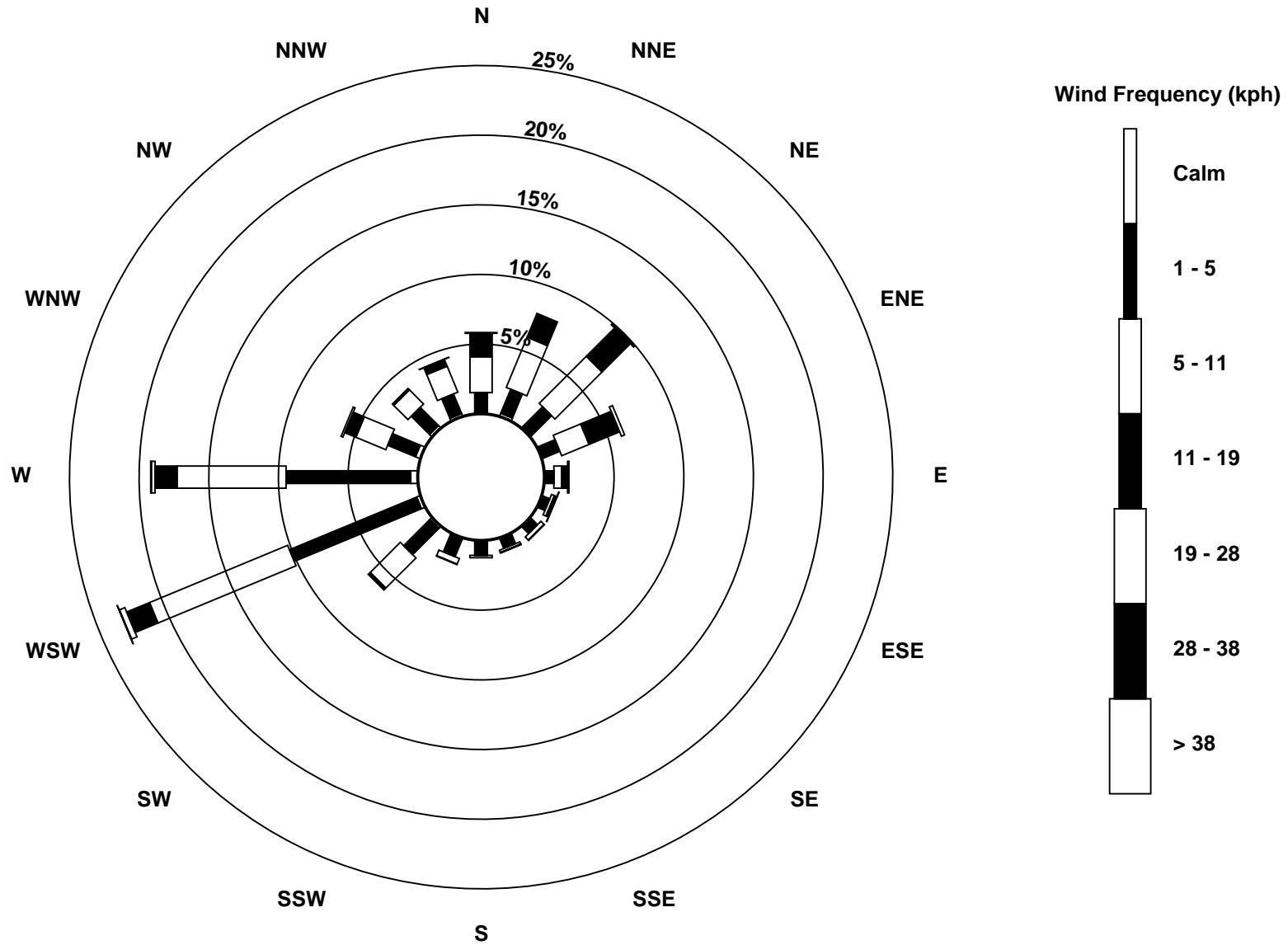
**Wind Frequency (kph)**



**WCAS - Edson**  
**Wind Speed Rose**



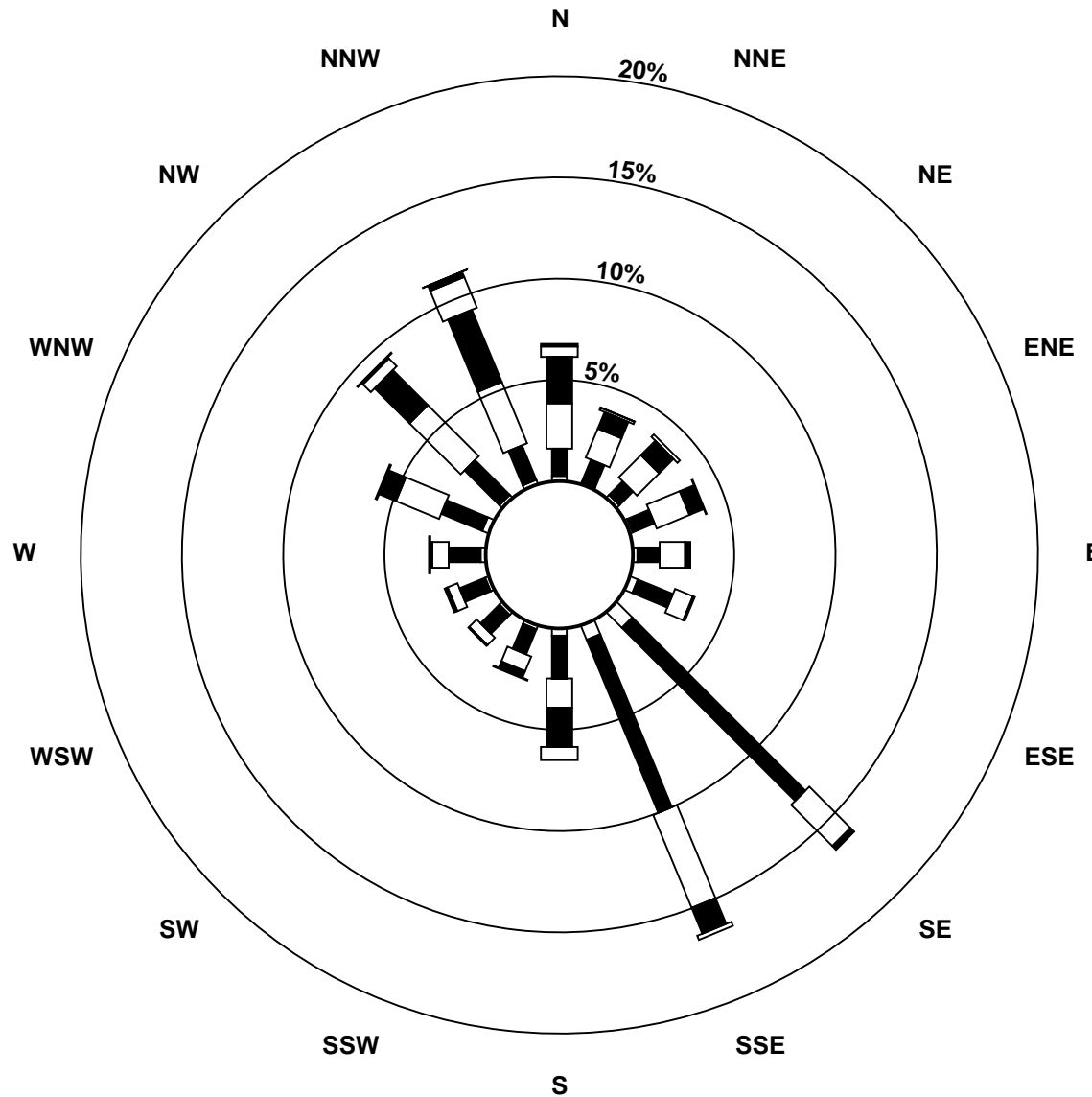
**Wind Speed (WS) - kph**  
**2014**



**WCAS - Breton  
Wind Speed Rose**



**Wind Speed (WS) - kph  
2014**



**Wind Frequency (kph)**

