

APPENDIX N:

Washington Class I Area Monitoring Data Summary Tables and Charts

Includes the following subsections:

Subsection	IMPROVE Monitor	Class I Area(s) Represented
N.1	MORA1	Mount Rainer NP
N.2	NOCA1	North Cascades NP and Glacier Peak WA
N.3	OLYM1	Olympic NP
N.4	PASA1	Pasayten WA
N.5	SNPA1	Alpine Lakes WA
N.6	WHPA1	Goat Rocks WA and Mount Adams WA

N.1. MOUNT RAINIER NP (MORA1)

The following tables and figures are presented in this section for the Mount Rainer NP represented by the MORA1 IMPROVE Monitor:

- **Table N.1-1: Annual Averages, 5-Year Period Averages, and Trends:** Table of averages and other metrics for the 20% least impaired days, the 20% most impaired days, and all sampled days is presented.
- **Figure N.1-1: Annual and 5-Year Period Averages for the 20% Most Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.1-2: Annual and 5-Year Period Averages for the 20% Least Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.1-3: 20% Most Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component for the 20% most impaired days are presented.
- **Figure N.1-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure N.1-5: 2000-2004 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the baseline period are presented.
- **Figure N.1-6: 2005-2009 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the progress period are presented.
- **Figure N.1-7: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the baseline period are presented.
- **Figure N.1-8: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the progress period are presented.

**Table N.1-1
Mount Rainer NP, WA (MORA1 Site)
Annual Averages, 5-Year Period Averages and Trends**

Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P-B)	Percent Change
Deciview (dv)																	
Best 20% Days	6.1	6.1	4.8	---	4.9	5.7	4.8	5.1	4.7	4.3	3.5	-0.2	0.0	5.5	4.9	-0.6	-11%
Worst 20% Days	18.8	18.3	17.3	---	18.6	16.8	17.6	15.3	15.8	16.5	14.1	-0.4	0.0	18.2	16.4	-1.8	-10%
All Days	12.6	12.0	11.4	---	11.9	11.5	11.1	9.9	10.3	10.2	8.5	-0.3	0.0	12.0	10.6	-1.4	-12%
Total Extinction (Mm-1)																	
Best 20% Days	18.5	18.4	16.3	---	16.5	17.9	16.3	16.6	16.2	15.5	14.2	-0.3	0.0	17.4	16.5	-0.9	-5%
Worst 20% Days	66.0	62.9	56.7	---	65.6	54.4	59.9	47.0	49.8	52.5	41.3	-1.9	0.0	62.8	52.7	-10.1	-16%
All Days	39.2	36.7	34.4	---	37.1	34.3	33.9	28.9	30.5	30.5	25.4	-1.0	0.0	36.8	31.6	-5.2	-14%
Ammonium Sulfate Extinction (Mm-1)																	
Best 20% Days	3.1	3.0	2.1	---	2.1	3.2	2.0	2.3	2.5	2.2	1.5	-0.1	0.3	2.6	2.5	-0.1	-4%
Worst 20% Days	25.6	28.6	18.6	---	22.1	14.9	21.0	15.0	15.8	19.6	15.1	-0.8	0.1	23.7	17.3	-6.4	-27%
All Days	12.8	13.1	9.7	---	10.3	9.4	10.1	7.6	8.8	9.1	7.1	-0.4	0.0	11.5	9.0	-2.5	-22%
Ammonium Nitrate Extinction (Mm-1)																	
Best 20% Days	0.7	0.8	0.6	---	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.0	0.0	0.6	0.4	-0.2	-33%
Worst 20% Days	5.7	4.1	4.9	---	5.9	3.2	4.5	4.5	2.4	3.5	3.3	-0.2	0.1	5.1	3.6	-1.5	-29%
All Days	2.8	2.4	2.6	---	2.5	1.7	2.1	1.8	1.8	1.7	1.4	-0.1	0.0	2.6	1.8	-0.8	-31%
Particulate Organic Mass Extinction (Mm-1)																	
Best 20% Days	1.9	1.7	1.2	---	1.2	1.4	1.0	1.2	0.9	0.7	0.4	-0.1	0.0	1.5	1.0	-0.5	-33%
Worst 20% Days	15.3	11.8	14.7	---	18.5	16.2	15.0	9.8	12.3	12.4	6.5	-0.3	0.2	15.1	13.1	-2.0	-13%
All Days	7.3	5.6	6.6	---	8.0	7.0	5.7	4.4	4.8	5.1	2.8	-0.3	0.1	6.9	5.4	-1.5	-22%
Elemental Carbon Extinction (Mm-1)																	
Best 20% Days	0.7	0.9	0.5	---	0.5	0.7	0.7	0.5	0.3	0.4	0.3	0.0	0.0	0.7	0.5	-0.2	-29%
Worst 20% Days	6.3	4.8	4.9	---	4.6	5.9	5.2	3.6	3.9	3.2	2.2	-0.2	0.0	5.1	4.4	-0.7	-14%
All Days	3.1	2.5	2.6	---	2.6	3.0	2.4	1.7	1.8	1.7	1.2	-0.1	0.0	2.7	2.1	-0.6	-22%
Soil Extinction (Mm-1)																	
Best 20% Days	0.1	0.1	0.0	---	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0	0.0	0%
Worst 20% Days	0.3	0.6	0.6	---	0.6	0.4	0.6	0.4	0.6	0.4	0.5	0.0	0.5	0.5	0.5	0.0	0%
All Days	0.2	0.3	0.2	---	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.0	0.3	0.2	0.2	0.0	0%
Coarse Mass Extinction (Mm-1)																	
Best 20% Days	0.5	0.6	0.6	---	0.5	0.6	0.3	0.5	0.4	0.4	0.3	0.0	0.1	0.5	0.4	-0.1	-20%
Worst 20% Days	1.9	2.1	2.1	---	2.7	2.4	2.5	2.0	3.5	2.0	1.6	0.1	0.2	2.2	2.5	0.3	14%
All Days	1.3	1.3	1.2	---	1.7	1.4	1.3	1.2	1.4	1.1	1.0	0.0	0.4	1.4	1.3	-0.1	-7%
Sea Salt Extinction (Mm-1)																	
Best 20% Days	0.5	0.5	0.4	---	0.6	0.6	0.8	0.6	0.5	0.4	0.3	0.0	0.3	0.5	0.6	0.1	20%
Worst 20% Days	0.0	0.0	0.0	---	0.2	0.3	0.2	0.7	0.3	0.4	1.0	0.0	0.0	0.1	0.4	0.3	>100%
All Days	0.8	0.5	0.4	---	0.8	0.6	1.1	0.9	0.6	0.7	0.7	0.0	0.4	0.6	0.8	0.2	33%

*Values highlighted in blue (red) indicate statistically significant decreasing (increasing) annual trend. Significance is measured at the 85% confidence level (p-value ≤0.15).

**Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

---" Indicates a missing year that did not meet RHR data completeness criteria.

Figure N.1-1
Mount Rainer NP, WA (MORA1 Site)
Annual and 5-Year Period Averages
20% Most Impaired Visibility Days

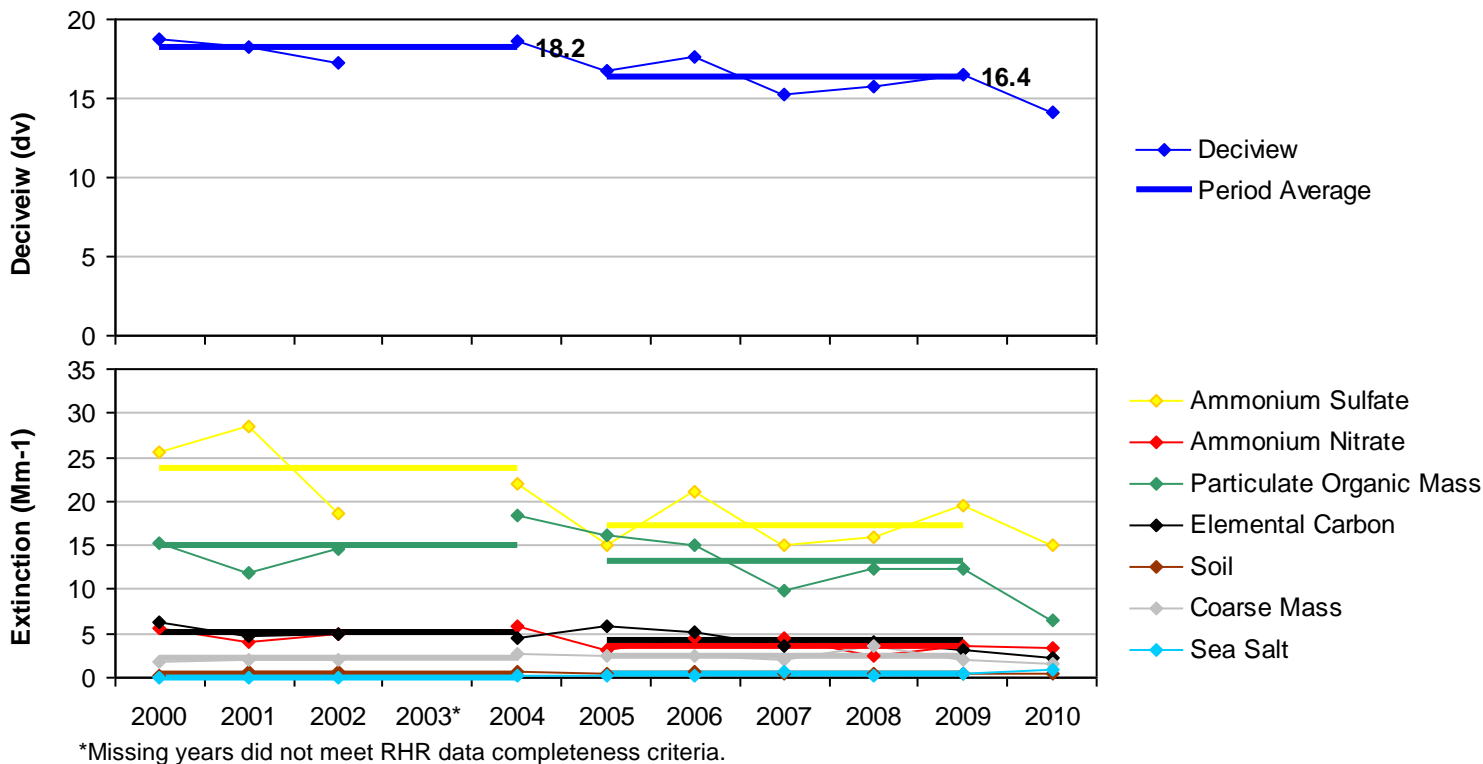


Figure N.1-2
Mount Rainer NP, WA (MORA1 Site)
Annual and 5-Year Period Averages
20% Least Impaired Visibility Days

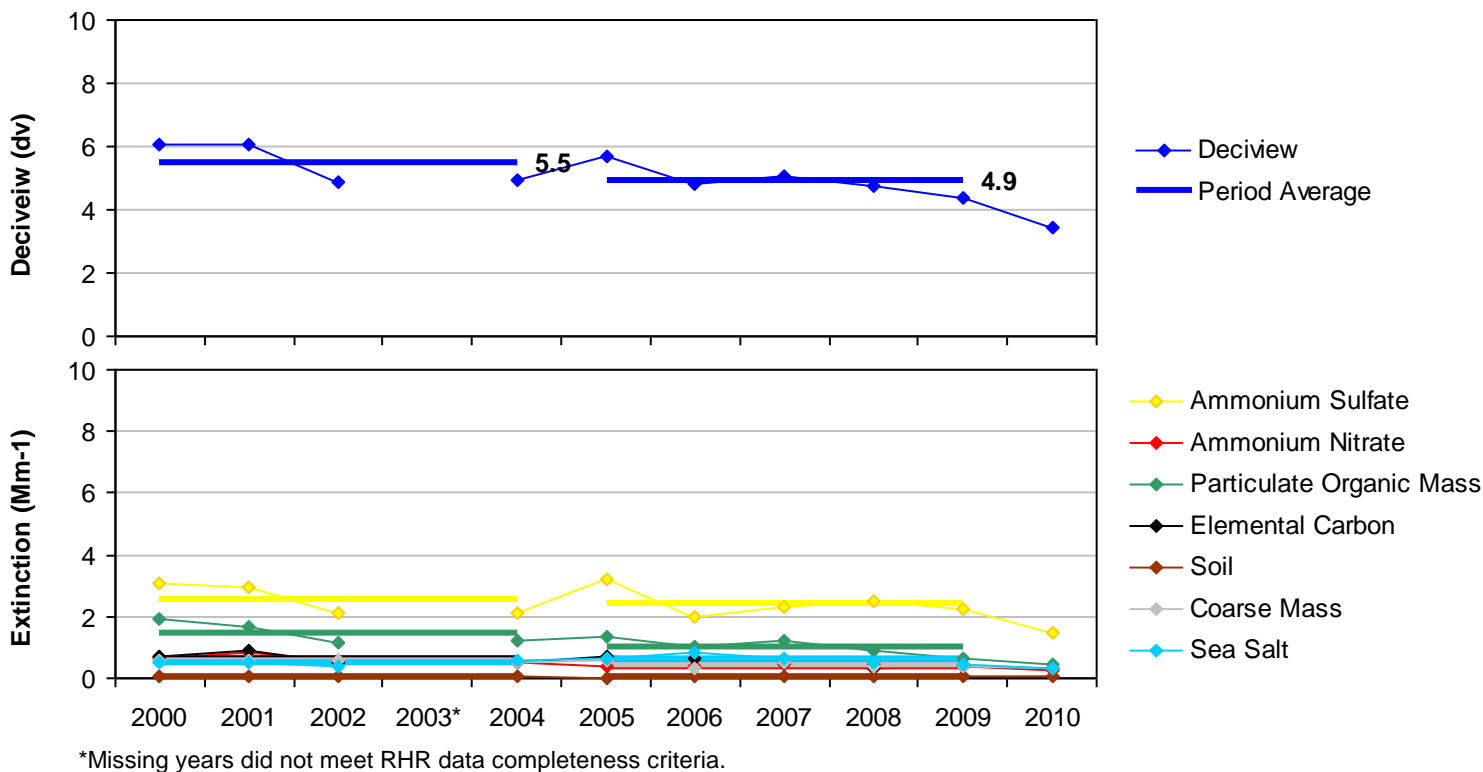
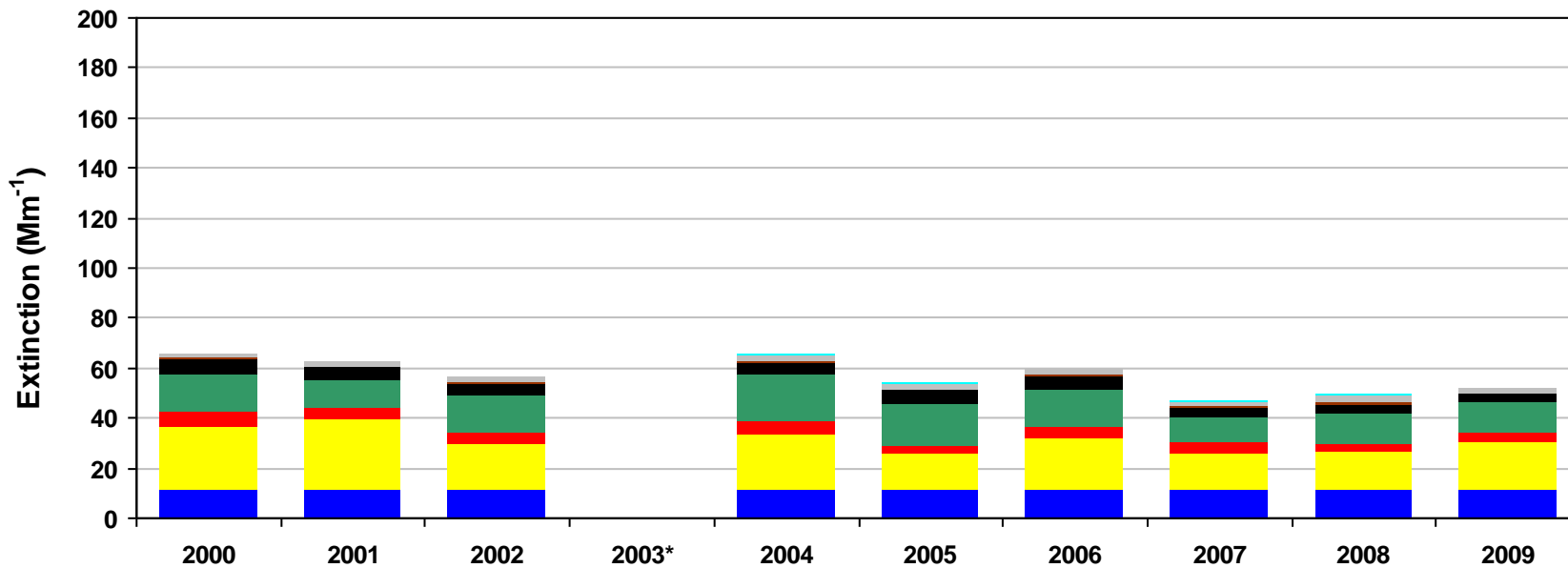
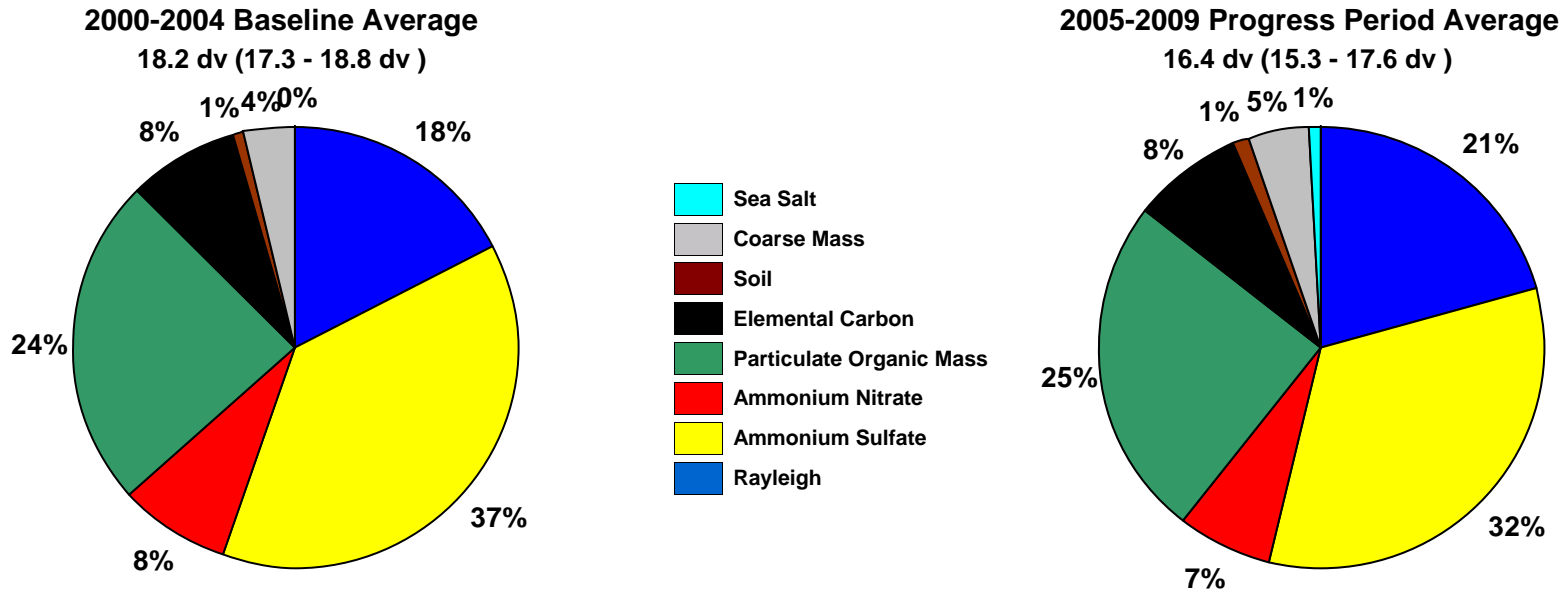
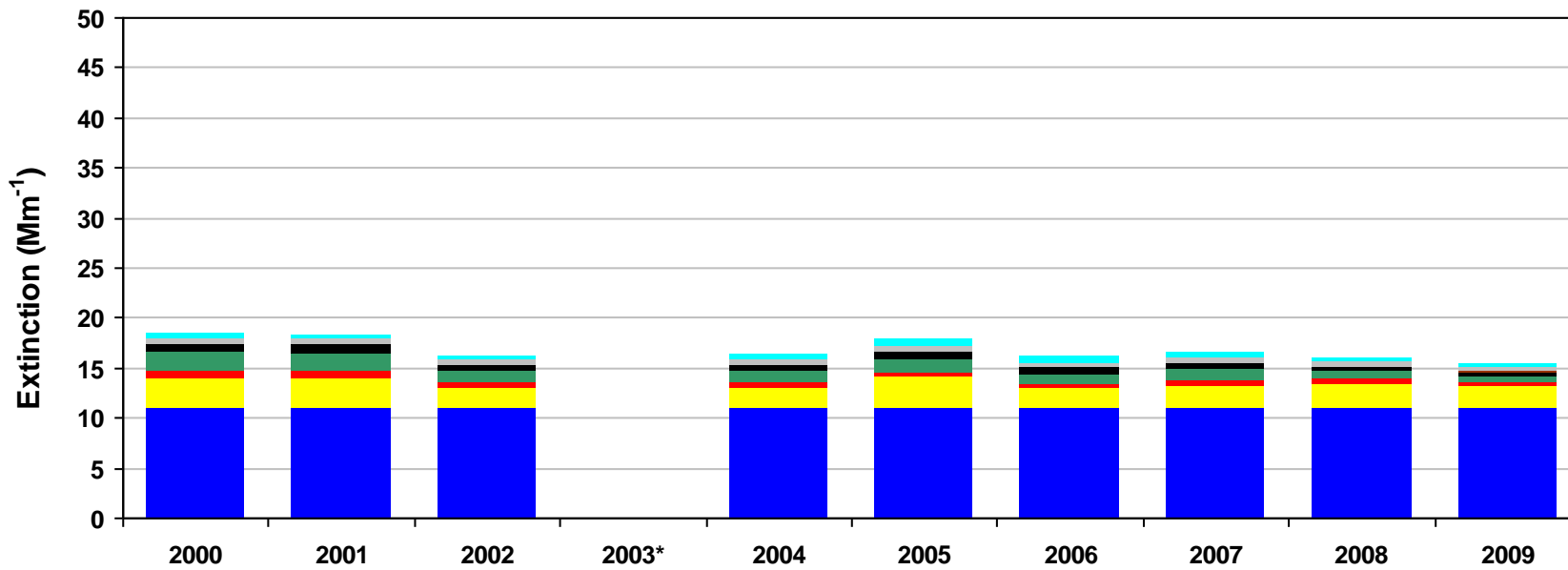
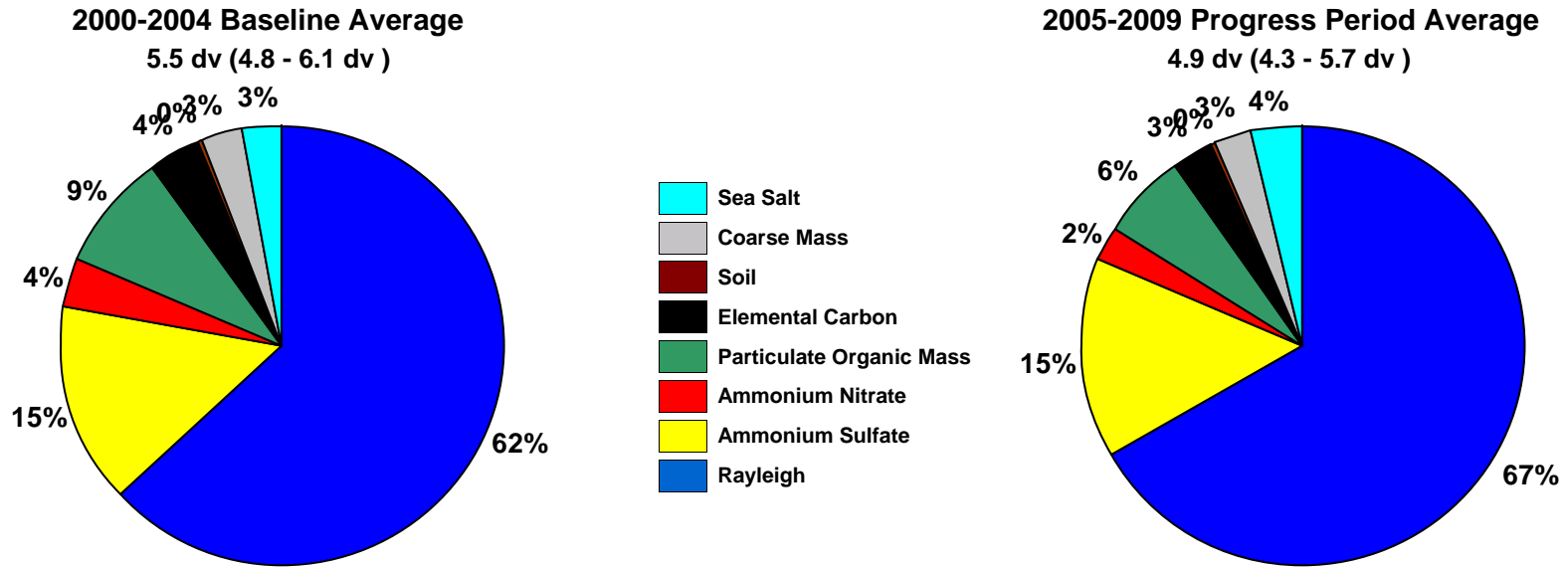


Figure N.1-3
Mount Rainer NP, WA (MORA1 Site)
20% Most Impaired Visibility Days



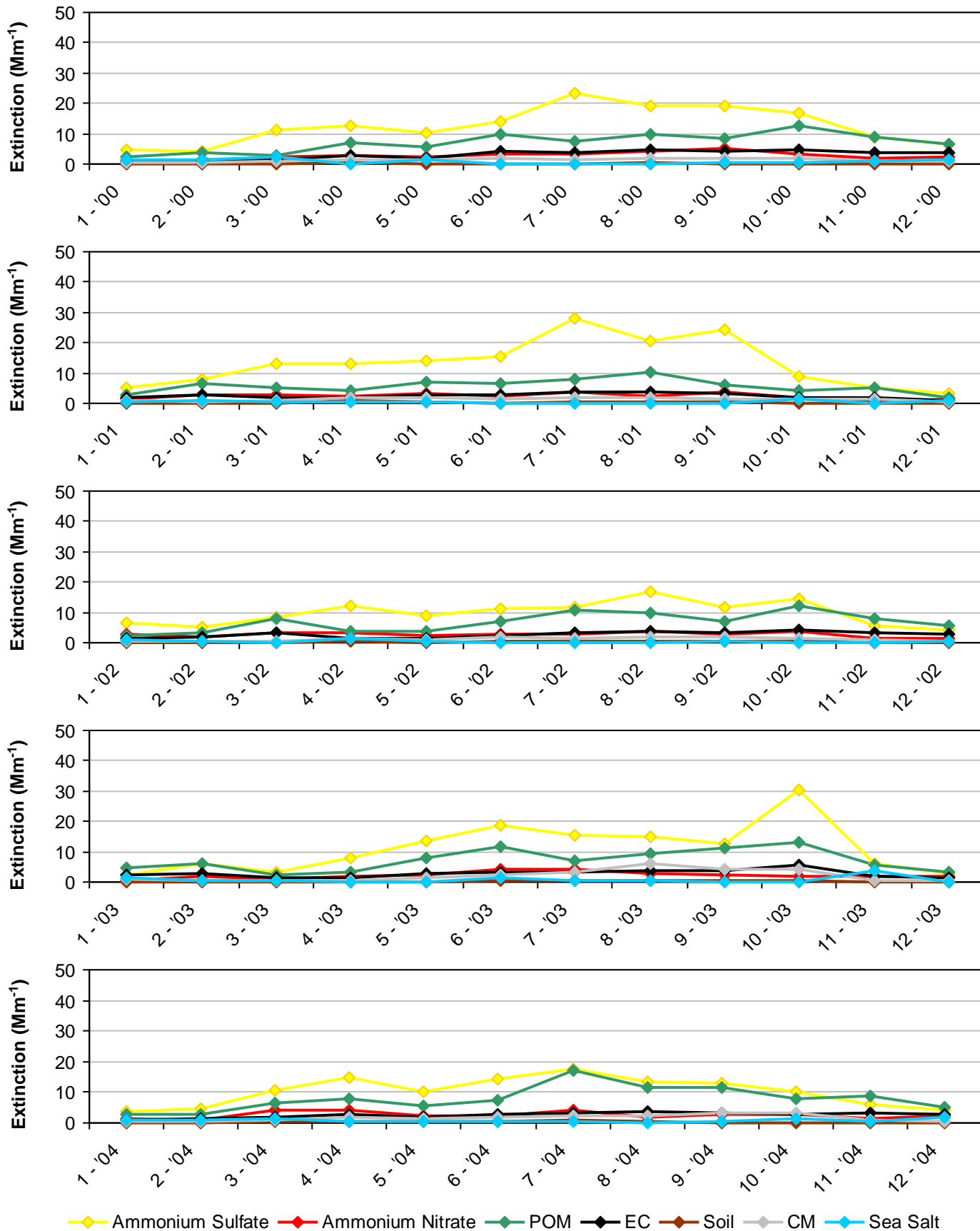
*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.1-4
Mount Rainer NP, WA (MORA1 Site)
20% Least Impaired Visibility Days



*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.1-5
Mount Rainer NP, WA (MORA1 Site)
2000-2004 Monthly Average Aerosol Extinction, All Monitored Days



*Note that monthly averages for the year 2003 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.1-6
Mount Rainer NP, WA (MORA1 Site)
2005-2009 Monthly Average Aerosol Extinction, All Monitored Days

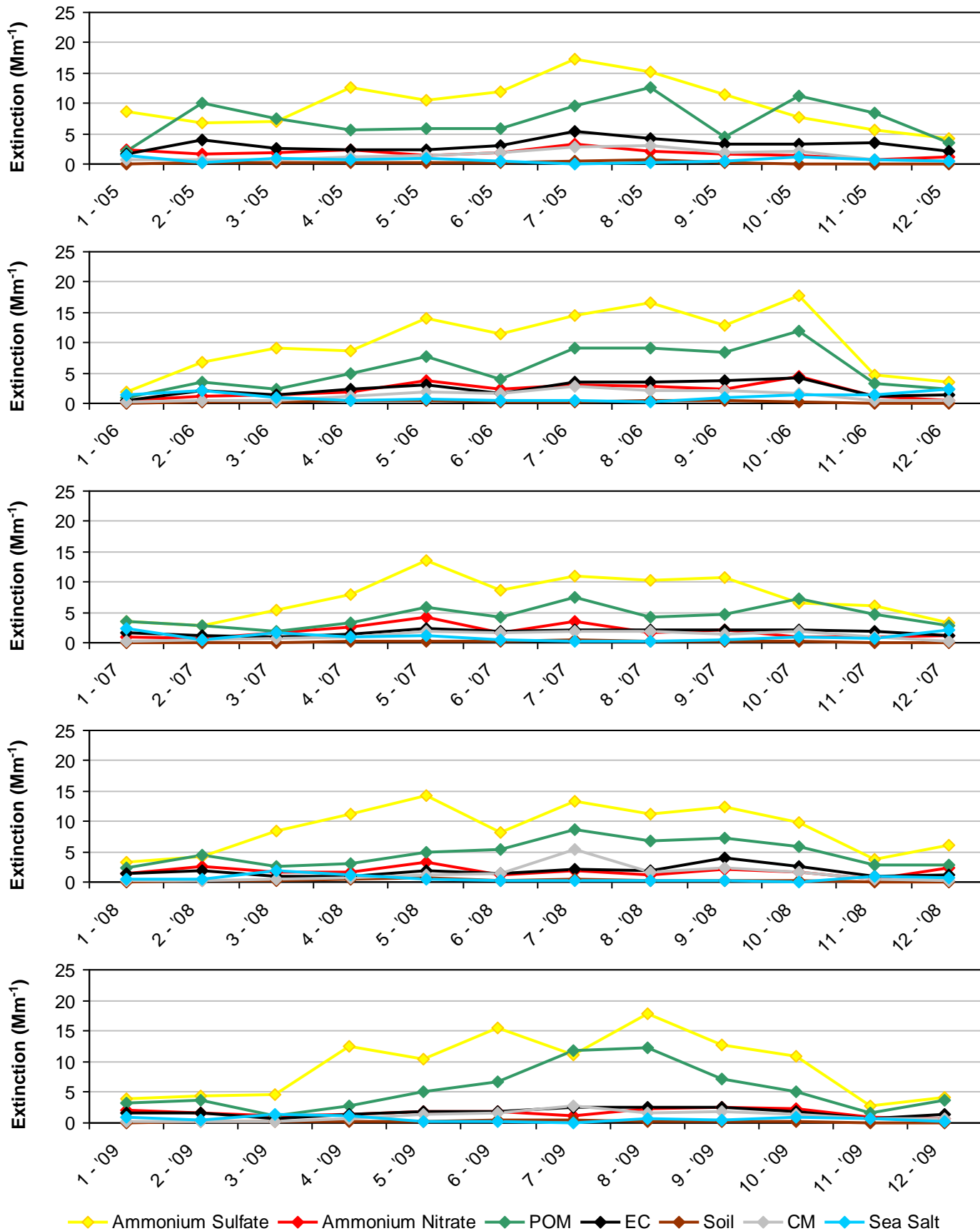
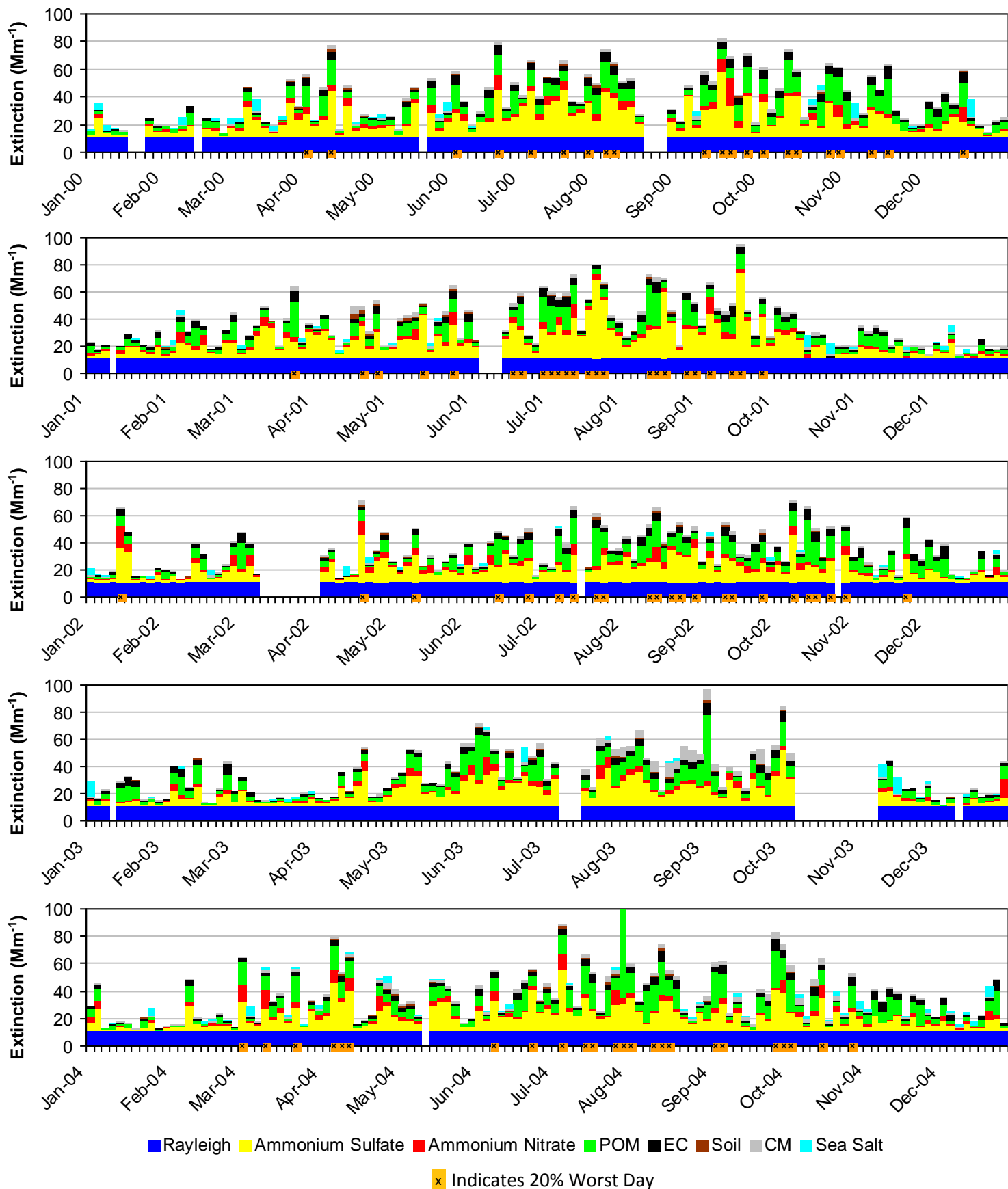
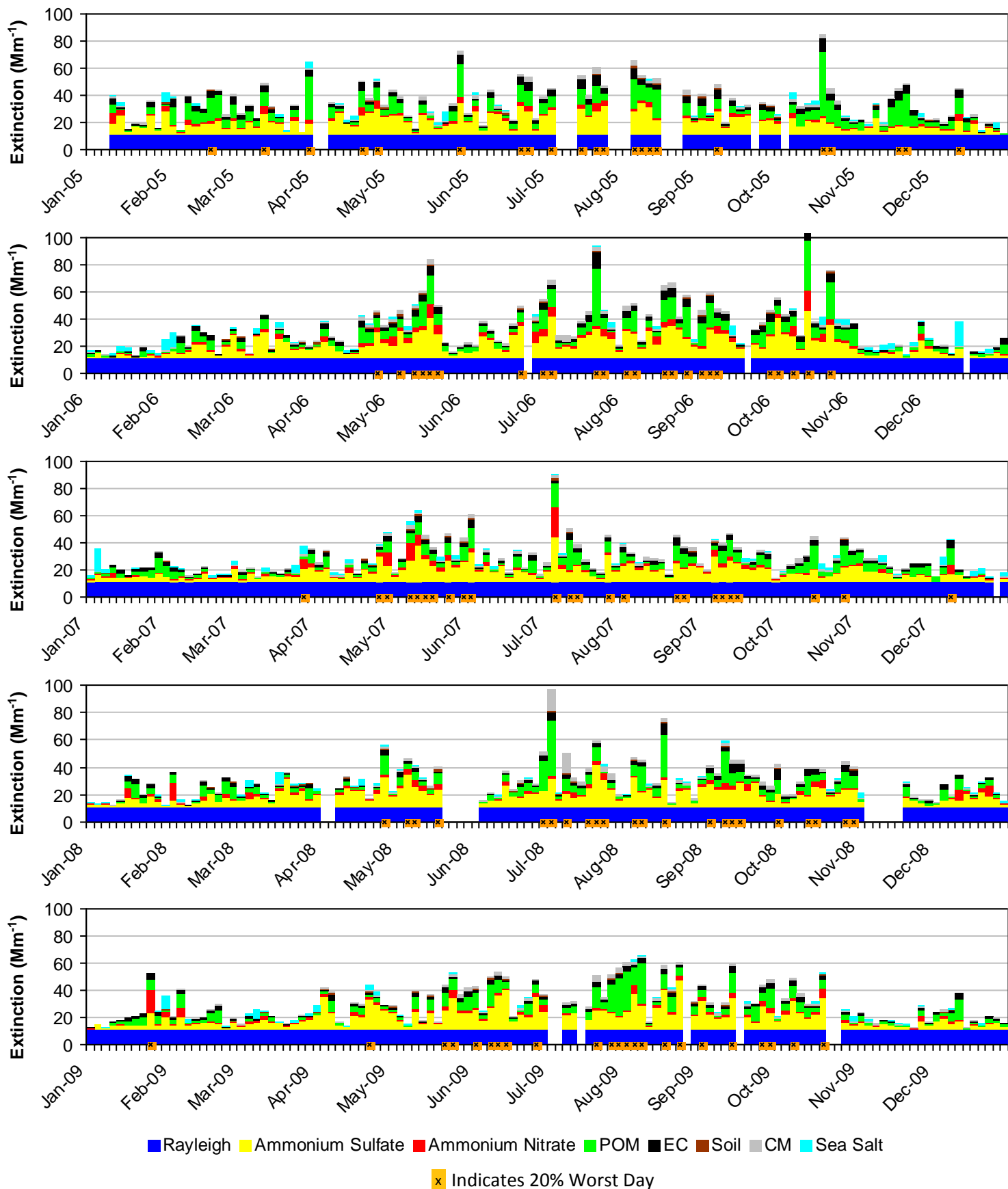


Figure N.1-7
Mount Rainer NP, WA (MORA1 Site)
2000-2004 Progress Period Extinction, All Sampled Days



*Note that daily averages for the year 2003 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.1-8
Mount Rainer NP, WA (MORA1 Site)
2005-2009 Progress Period Extinction, All Sampled Days



N.2. NORTH CASCADES NP AND GLACIER PEAK WA (NOCA1)

The following tables and figures are presented in this section for the North Cascades NP and Glacier Peak WA represented by the NOCA1 IMPROVE Monitor:

- **Table N.2-1: Annual Averages, 5-Year Period Averages, and Trends:** Table of averages and other metrics for the 20% least impaired days, the 20% most impaired days, and all sampled days is presented.
- **Figure N.2-1: Annual and 5-Year Period Averages for the 20% Most Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.2-2: Annual and 5-Year Period Averages for the 20% Least Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.2-3: 20% Most Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component for the 20% most impaired days are presented.
- **Figure N.2-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure N.2-5: 2000-2004 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the baseline period are presented.
- **Figure N.2-6: 2005-2009 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the progress period are presented.
- **Figure N.2-7: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the baseline period are presented.
- **Figure N.2-8: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the progress period are presented.

**Table N.2-1
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
Annual Averages, 5-Year Period Averages and Trends**

Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P - B)	Percent Change
Deciview (dv)																	
Best 20% Days	---	3.8	3.1	3.2	3.4	3.3	2.8	3.0	3.7	3.2	2.6	0.0	0.3	3.4	3.2	-0.2	-6%
Worst 20% Days	---	13.8	14.1	20.5	15.7	12.9	14.4	12.6	12.9	15.8	13.5	-0.1	0.5	16.0	13.7	-2.3	-14%
All Days	---	8.3	8.3	9.7	8.4	7.8	8.3	7.4	8.0	8.8	7.1	0.0	0.3	8.7	8.1	-0.6	-7%
Total Extinction (Mm-1)																	
Best 20% Days	---	14.7	13.7	13.8	14.1	13.9	13.3	13.6	14.5	13.8	13.0	0.0	0.3	14.1	13.8	-0.3	-2%
Worst 20% Days	---	40.8	41.9	137.7	50.2	36.6	42.5	36.2	37.0	50.7	40.9	-0.4	0.5	67.6	40.6	-27.0	-40%
All Days	---	24.6	24.9	44.6	26.1	23.3	25.0	22.5	23.5	27.0	22.6	-0.2	0.5	30.1	24.3	-5.8	-19%
Ammonium Sulfate Extinction (Mm-1)																	
Best 20% Days	---	1.8	1.3	1.2	1.2	1.6	1.2	1.4	2.2	1.6	1.1	0.0	0.4	1.4	1.6	0.2	14%
Worst 20% Days	---	15.6	14.9	13.6	15.4	12.9	14.7	13.5	12.4	15.2	12.2	-0.2	0.1	14.9	13.7	-1.2	-8%
All Days	---	7.5	6.9	6.7	6.3	6.5	7.2	5.9	6.8	7.5	5.4	0.0	0.5	6.8	6.8	0.0	0%
Ammonium Nitrate Extinction (Mm-1)																	
Best 20% Days	---	0.5	0.4	0.4	0.5	0.2	0.2	0.2	0.3	0.2	0.2	0.0	0.0	0.4	0.2	-0.2	-50%
Worst 20% Days	---	2.1	2.8	3.7	2.2	2.2	2.5	2.2	2.4	2.1	2.5	0.0	0.3	2.7	2.3	-0.4	-15%
All Days	---	1.2	1.3	1.4	1.2	1.0	1.1	1.1	1.1	1.1	1.0	0.0	0.1	1.3	1.1	-0.2	-15%
Particulate Organic Mass Extinction (Mm-1)																	
Best 20% Days	---	0.7	0.5	0.7	0.7	0.5	0.3	0.5	0.5	0.5	0.2	0.0	0.0	0.6	0.5	-0.1	-17%
Worst 20% Days	---	7.6	9.0	98.7	16.8	6.4	9.4	5.9	7.3	18.1	11.1	-0.1	0.5	33.0	9.4	-23.6	-72%
All Days	---	2.9	3.7	22.0	5.2	2.7	3.4	2.7	2.8	5.4	3.3	0.0	0.4	8.5	3.4	-5.1	-60%
Elemental Carbon Extinction (Mm-1)																	
Best 20% Days	---	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.0	0.2	0.2	0.0	0%
Worst 20% Days	---	1.8	2.2	8.9	2.3	2.1	2.5	1.7	1.5	2.6	2.0	0.0	0.5	3.8	2.1	-1.7	-45%
All Days	---	0.8	1.1	2.5	1.0	1.0	1.1	0.8	0.7	1.0	0.7	0.0	0.2	1.3	0.9	-0.4	-31%
Soil Extinction (Mm-1)																	
Best 20% Days	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0%
Worst 20% Days	---	0.7	0.4	0.3	0.5	0.3	0.5	0.3	0.5	0.3	0.5	0.0	0.3	0.5	0.4	-0.1	-20%
All Days	---	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.0	0.4	0.2	0.2	0.0	0%
Coarse Mass Extinction (Mm-1)																	
Best 20% Days	---	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.0	0.3	0.2	0.2	0.0	0%
Worst 20% Days	---	1.9	1.6	1.5	2.0	1.5	1.8	1.3	1.6	1.3	1.2	0.0	0.1	1.8	1.5	-0.3	-17%
All Days	---	0.8	0.7	0.8	0.9	0.7	0.7	0.6	0.7	0.7	0.6	0.0	0.1	0.8	0.7	-0.1	-13%
Sea Salt Extinction (Mm-1)																	
Best 20% Days	---	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.0	0%
Worst 20% Days	---	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.1	0.4	0.0	0.0	0.0	0.2	0.2	0%
All Days	---	0.1	0.1	0.2	0.3	0.2	0.4	0.3	0.2	0.2	0.3	0.0	0.1	0.2	0.3	0.1	50%

*Values highlighted in blue (red) indicate statistically significant decreasing (increasing) annual trend. Significance is measured at the 85% confidence level (p-value ≤0.15).

**Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

---" Indicates a missing year that did not meet RHR data completeness criteria.

Figure N.2-1
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
Annual and 5-Year Period Averages
20% Most Impaired Visibility Days

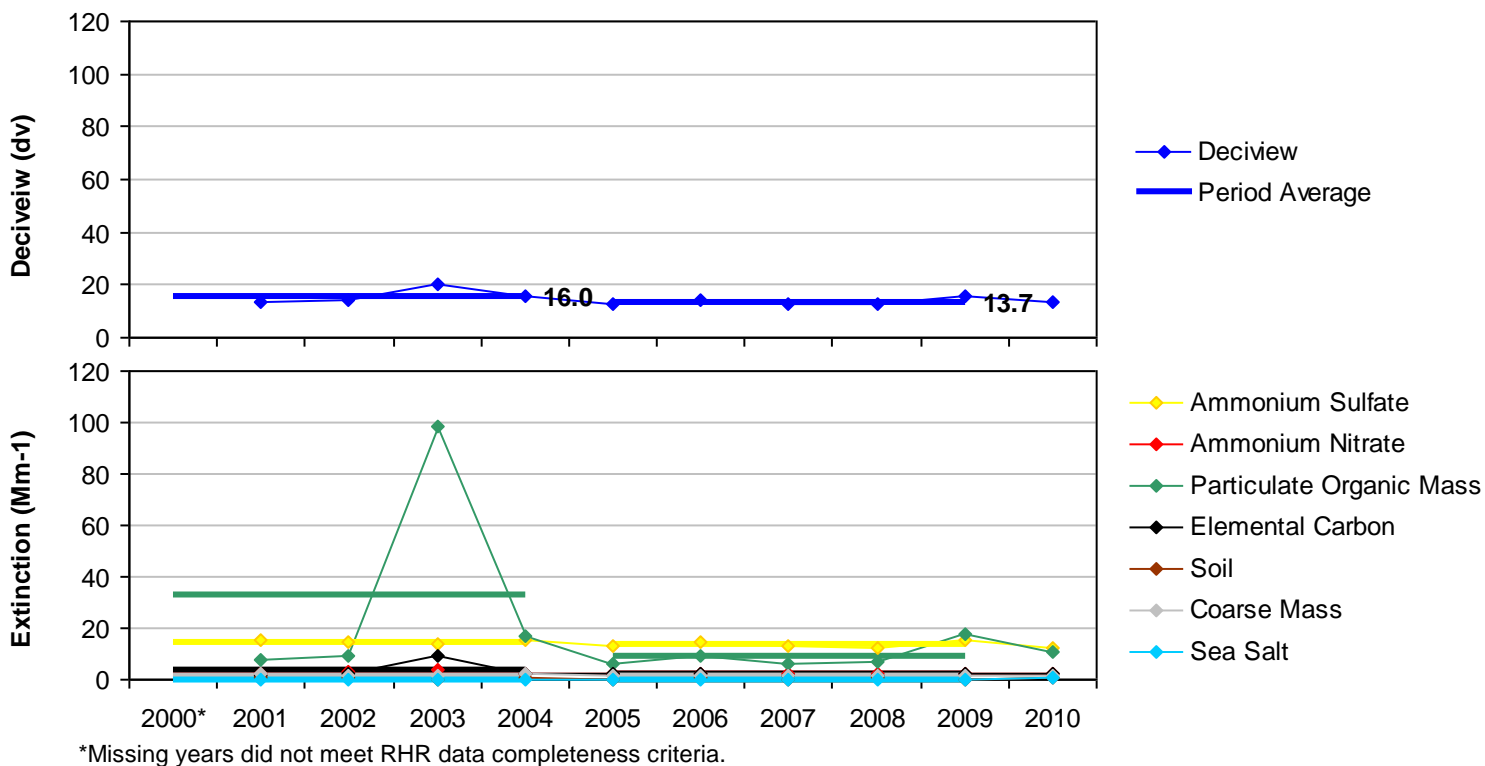


Figure N.2-2
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
Annual and 5-Year Period Averages
20% Least Impaired Visibility Days

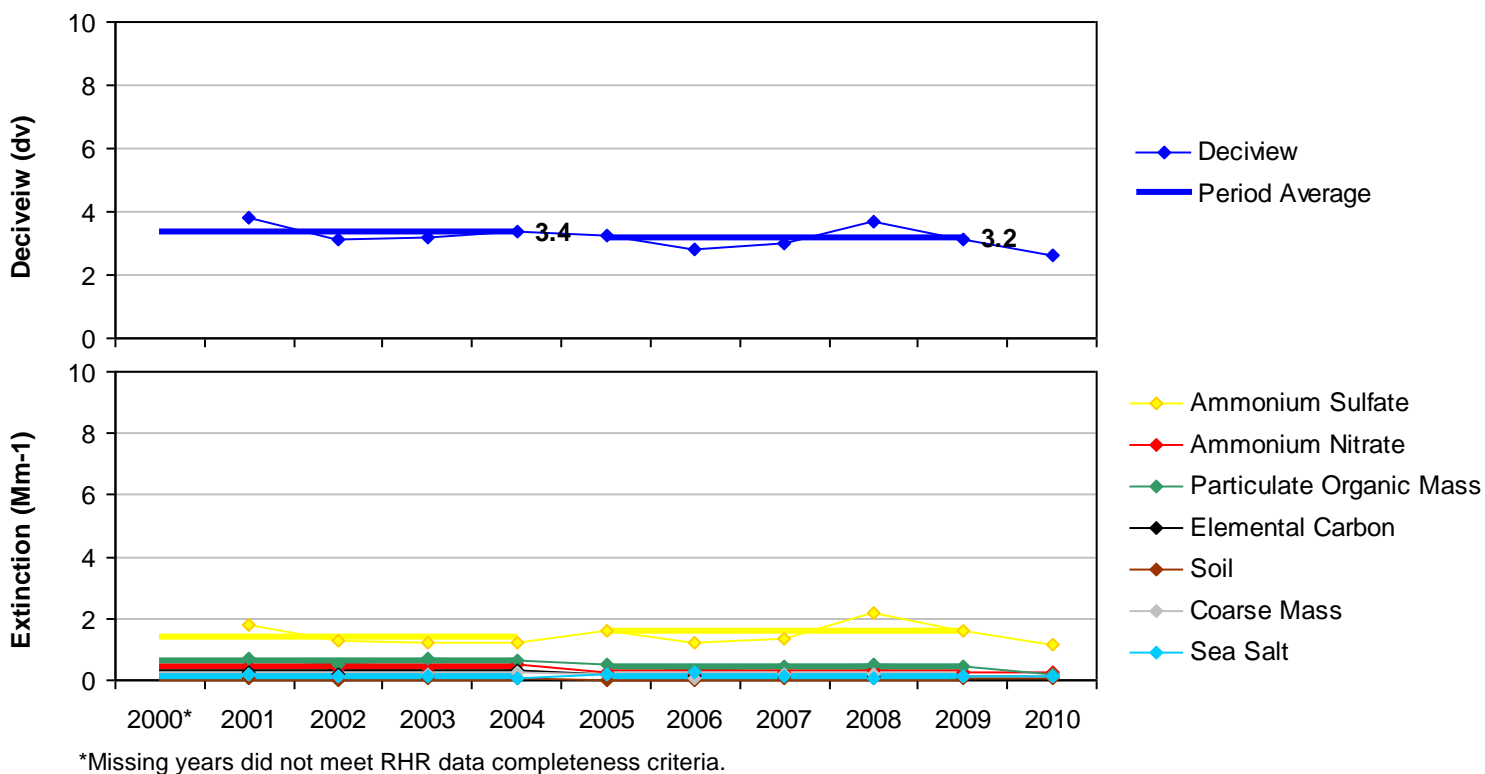
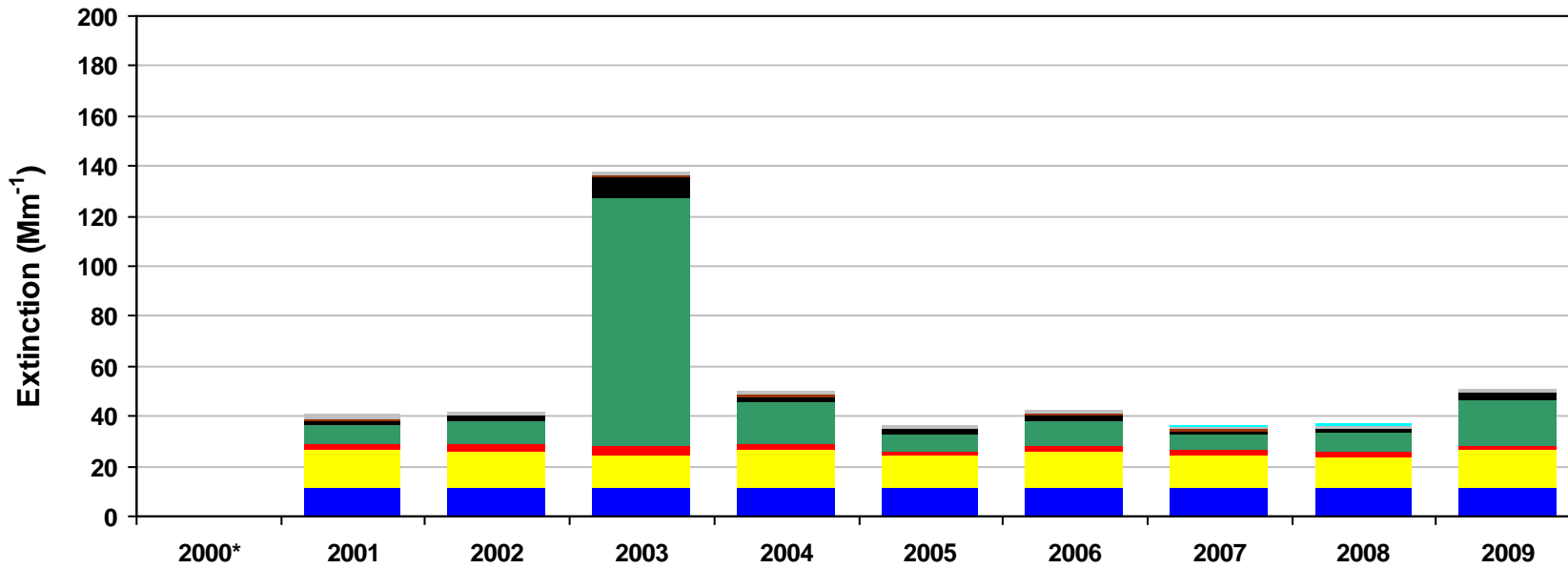
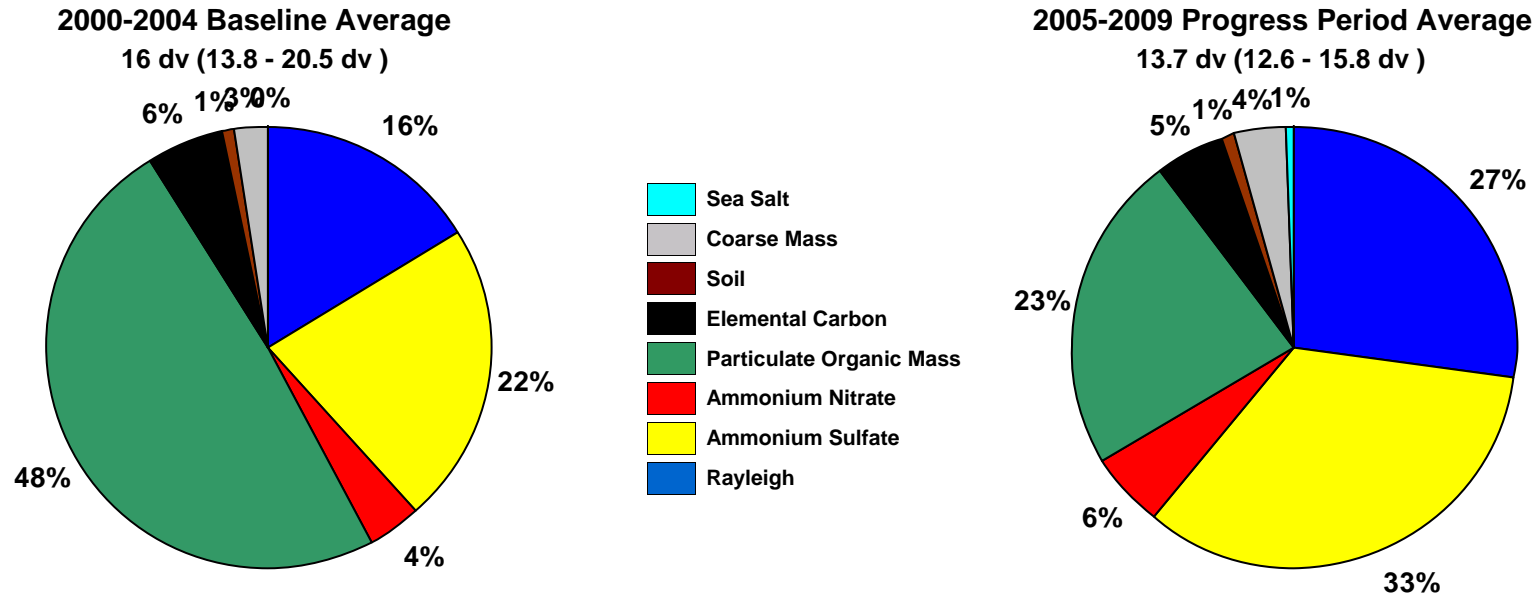
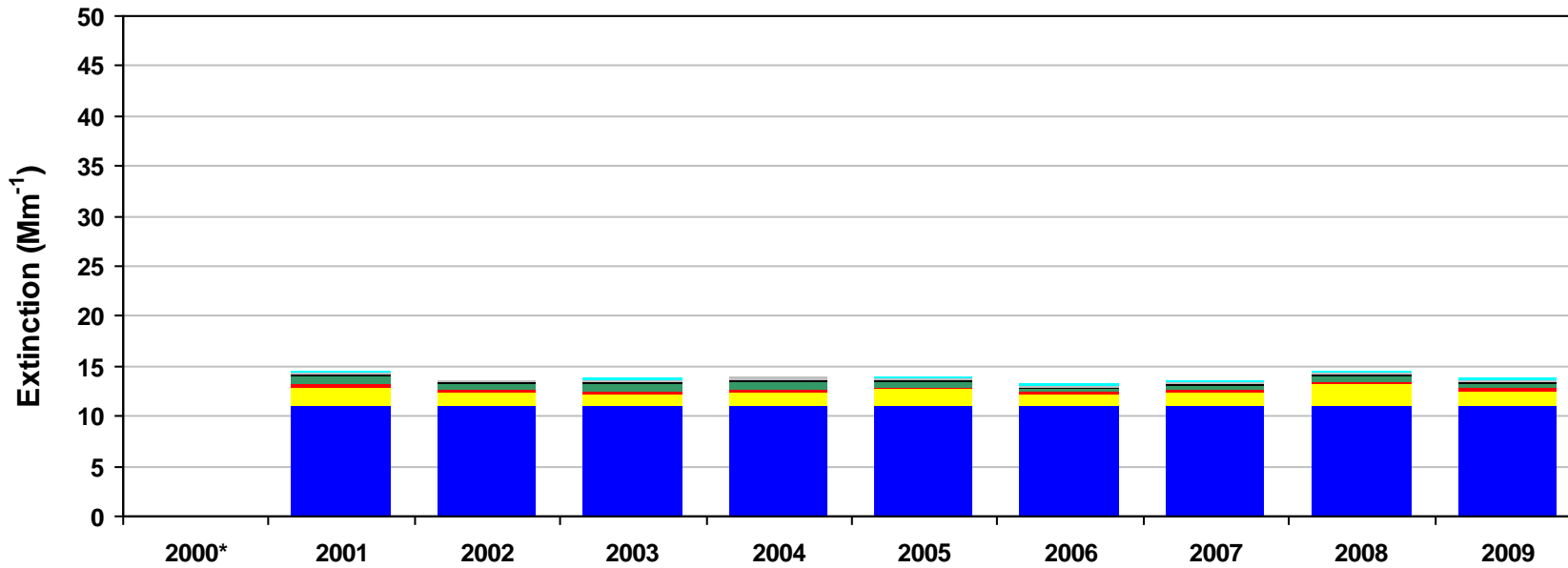
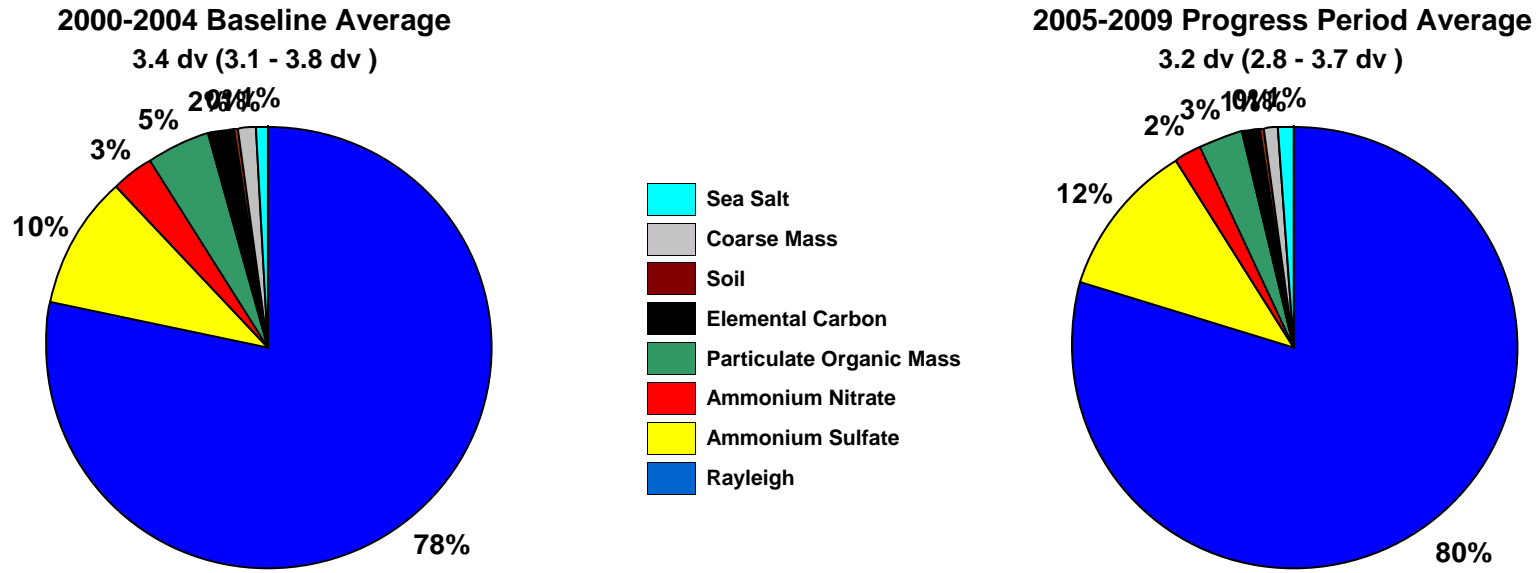


Figure N.2-3
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
20% Most Impaired Visibility Days



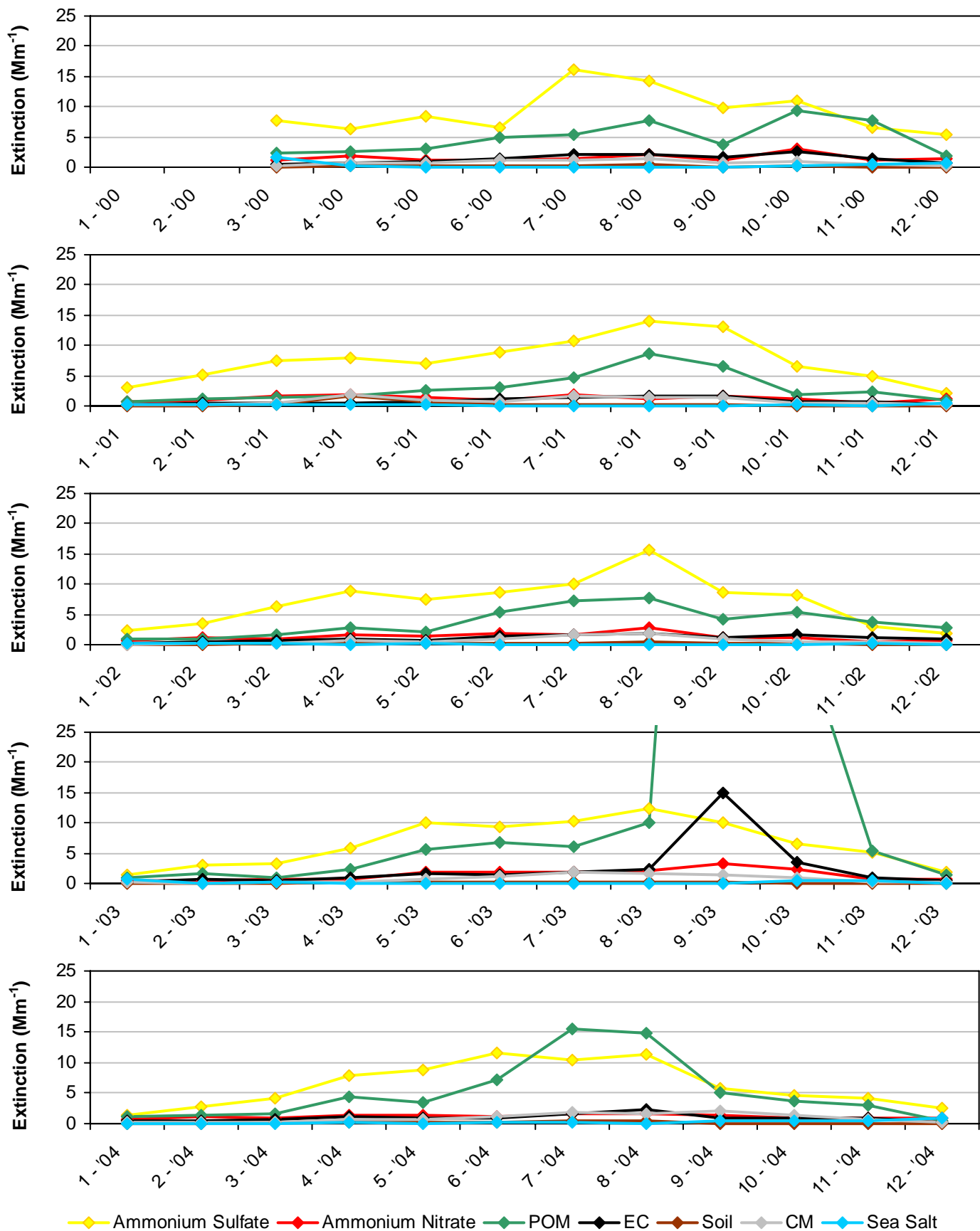
*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.2-4
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
20% Least Impaired Visibility Days



*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.2-5
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
2000-2004 Monthly Average Aerosol Extinction, All Monitored Days



*Note that monthly averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.2-6
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
2005-2009 Monthly Average Aerosol Extinction, All Monitored Days

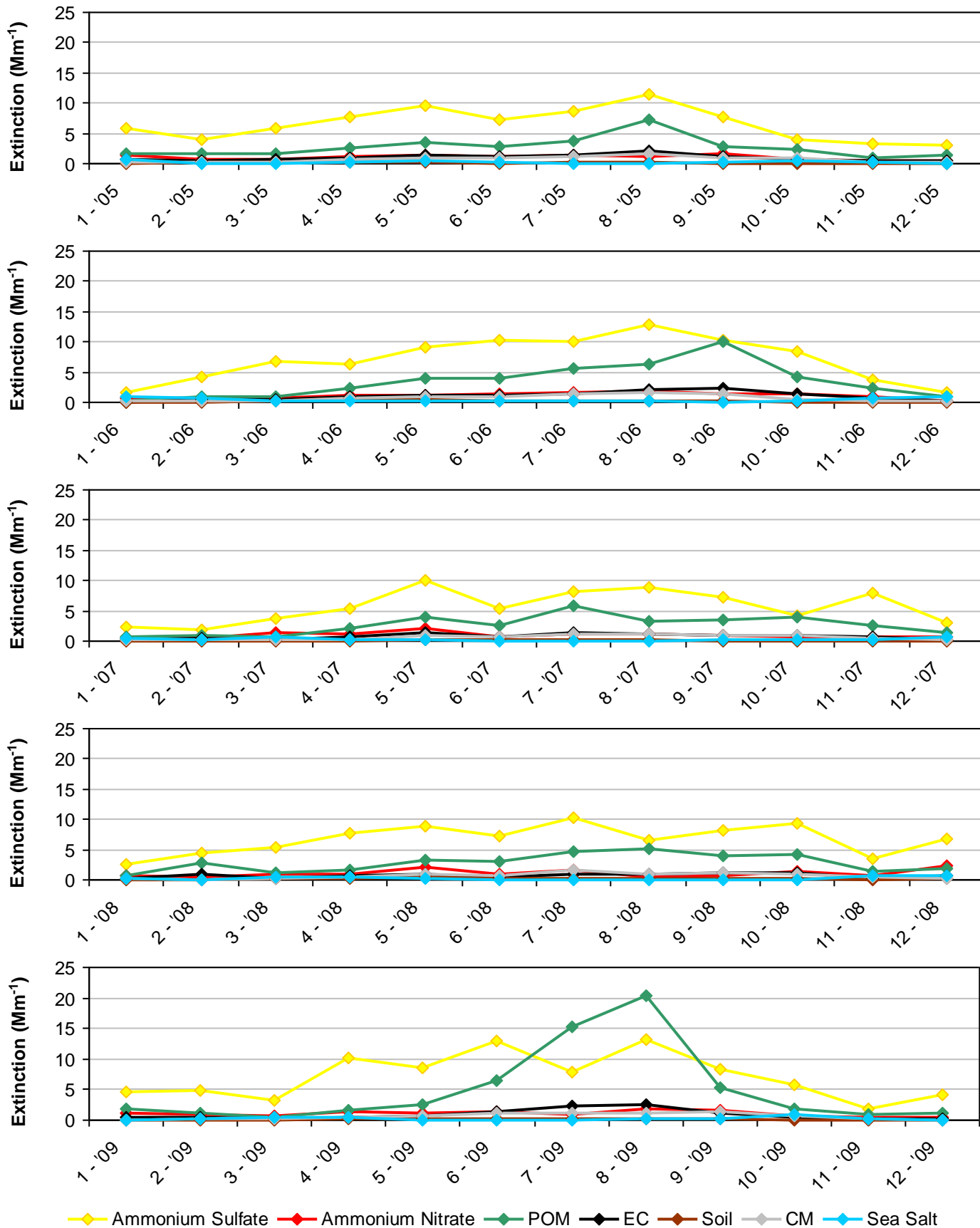
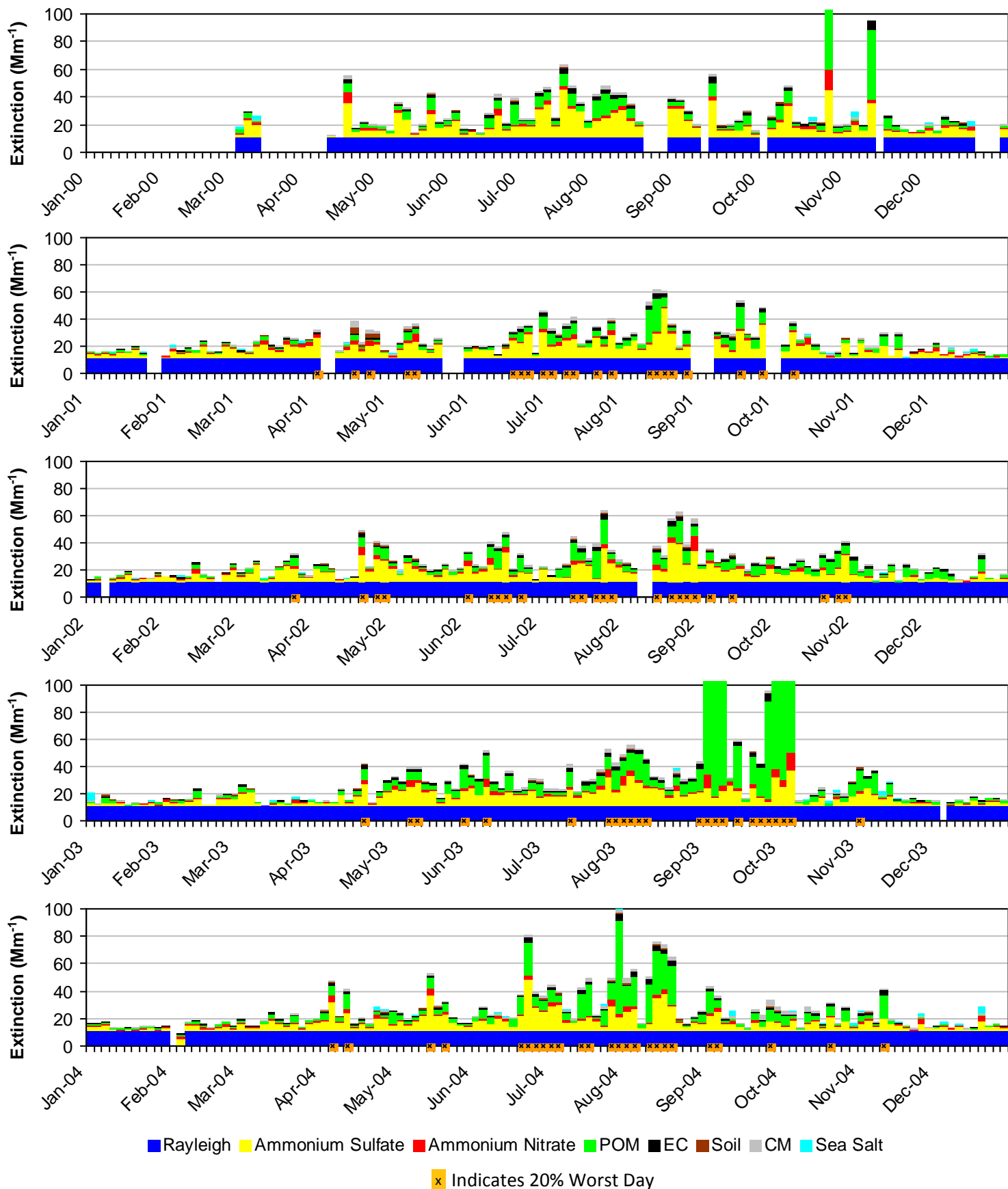
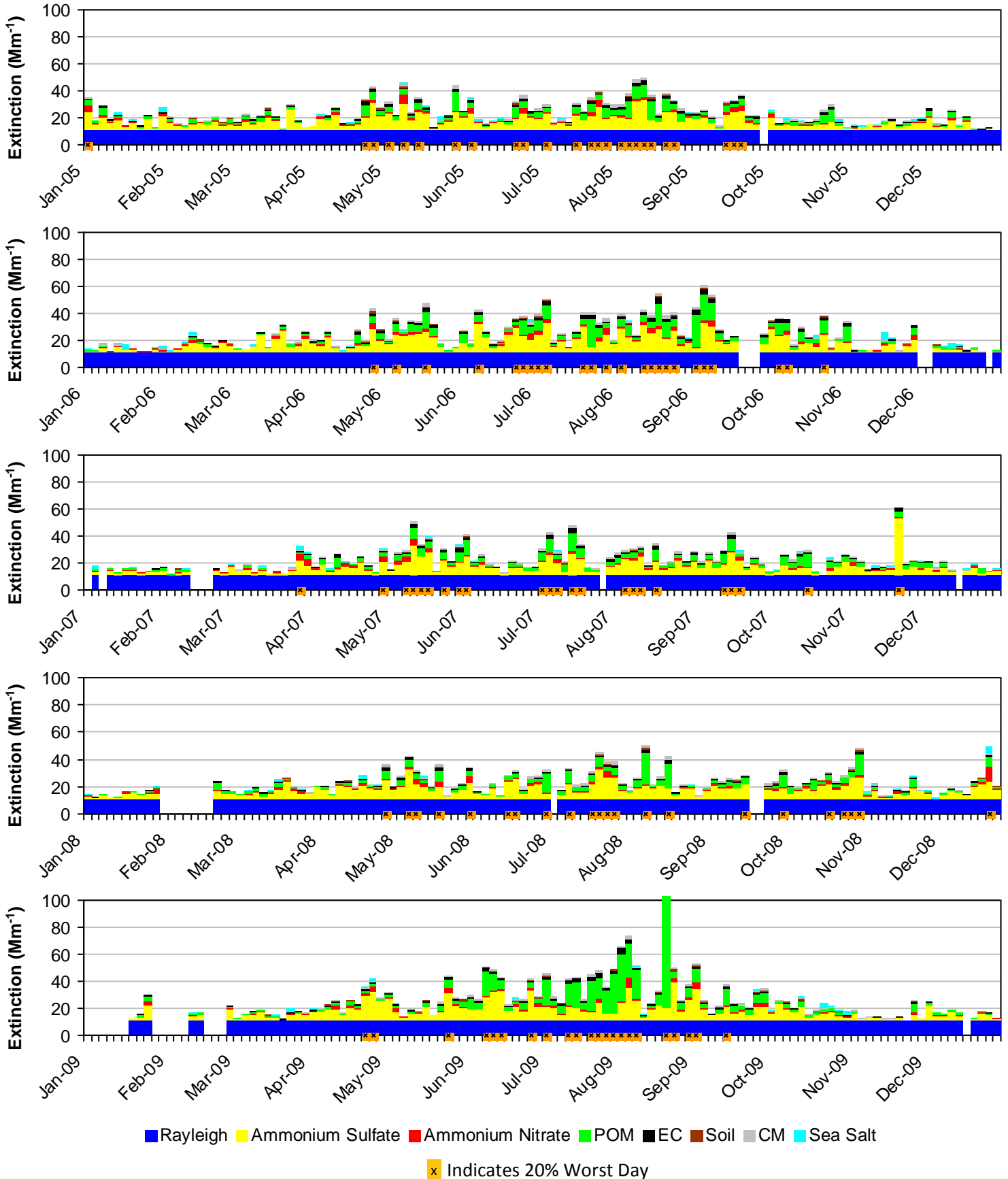


Figure N.2-7
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
2000-2004 Progress Period Extinction, All Sampled Days



*Note that daily averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.2-8
North Cascades NP and Glacier Peak WA, WA (NOCA1 Site)
2005-2009 Progress Period Extinction, All Sampled Days



N.3. OLYMPIC NP (OLYM1)

The following tables and figures are presented in this section for the Olympic NP represented by the OLYM1 IMPROVE Monitor:

- **Table N.3-1: Annual Averages, 5-Year Period Averages, and Trends:** Table of averages and other metrics for the 20% least impaired days, the 20% most impaired days, and all sampled days is presented.
- **Figure N.3-1: Annual and 5-Year Period Averages for the 20% Most Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.3-2: Annual and 5-Year Period Averages for the 20% Least Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.3-3: 20% Most Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component for the 20% most impaired days are presented.
- **Figure N.3-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure N.3-5: 2000-2004 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the baseline period are presented.
- **Figure N.3-6: 2005-2009 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the progress period are presented.
- **Figure N.3-7: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the baseline period are presented.
- **Figure N.3-8: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the progress period are presented.

**Table N.3-1
Olympic NP, WA (OLYM1 Site)
Annual Averages, 5-Year Period Averages and Trends**

Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P-B)	Percent Change
Deciview (dv)																	
Best 20% Days	---	---	5.5	6.0	6.5	5.9	5.2	5.1	5.0	4.1	3.5	-0.3	0.0	6.0	5.0	-1.0	-17%
Worst 20% Days	---	---	16.5	17.2	16.6	15.4	15.2	14.8	15.2	15.4	14.2	-0.3	0.1	16.7	15.2	-1.5	-9%
All Days	---	---	11.4	11.6	11.7	11.1	10.6	10.2	10.4	10.4	9.1	-0.2	0.0	11.6	10.5	-1.1	-10%
Total Extinction (Mm-1)																	
Best 20% Days	---	---	17.6	18.3	19.4	18.3	17.0	16.7	16.7	15.2	14.2	-0.4	0.0	18.4	16.8	-1.6	-9%
Worst 20% Days	---	---	53.1	56.5	53.2	47.0	46.3	44.1	46.1	47.5	41.9	-1.5	0.1	54.3	46.2	-8.1	-15%
All Days	---	---	33.7	34.4	34.4	31.9	30.8	29.3	30.2	30.7	26.6	-0.7	0.0	34.2	30.6	-3.6	-11%
Ammonium Sulfate Extinction (Mm-1)																	
Best 20% Days	---	---	2.6	2.6	2.9	2.8	2.0	2.1	2.6	2.0	1.4	-0.1	0.2	2.7	2.3	-0.4	-15%
Worst 20% Days	---	---	16.9	16.7	16.4	16.3	15.6	13.7	14.5	19.1	15.2	-0.3	0.1	16.7	15.8	-0.9	-5%
All Days	---	---	9.6	9.3	9.2	9.5	9.1	7.7	8.9	9.6	7.4	-0.1	0.1	9.4	9.0	-0.4	-4%
Ammonium Nitrate Extinction (Mm-1)																	
Best 20% Days	---	---	1.0	1.4	1.4	1.1	0.8	0.9	0.7	0.7	0.5	-0.1	0.0	1.2	0.8	-0.4	-33%
Worst 20% Days	---	---	9.3	8.2	7.4	5.7	6.5	7.2	7.2	4.6	5.2	-0.5	0.0	8.3	6.2	-2.1	-25%
All Days	---	---	4.2	4.2	4.0	3.5	3.1	3.3	3.3	3.0	2.6	-0.2	0.0	4.1	3.2	-0.9	-22%
Particulate Organic Mass Extinction (Mm-1)																	
Best 20% Days	---	---	1.6	1.9	2.2	1.4	1.1	1.3	1.2	0.6	0.5	-0.2	0.0	1.9	1.1	-0.8	-42%
Worst 20% Days	---	---	10.9	14.0	11.2	8.8	7.5	7.0	8.3	7.5	5.2	-0.7	0.0	12.1	7.8	-4.3	-36%
All Days	---	---	5.4	6.0	5.9	4.4	3.8	3.8	3.9	3.8	2.7	-0.3	0.0	5.8	3.9	-1.9	-33%
Elemental Carbon Extinction (Mm-1)																	
Best 20% Days	---	---	0.6	0.6	0.8	0.5	0.5	0.5	0.4	0.2	0.3	0.0	0.0	0.6	0.4	-0.2	-33%
Worst 20% Days	---	---	2.6	3.1	2.5	2.6	2.2	2.3	1.8	1.4	1.2	-0.2	0.0	2.7	2.1	-0.6	-22%
All Days	---	---	1.5	1.6	1.5	1.5	1.3	1.3	1.0	1.0	0.8	-0.1	0.0	1.6	1.2	-0.4	-25%
Soil Extinction (Mm-1)																	
Best 20% Days	---	---	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0%
Worst 20% Days	---	---	0.4	0.2	0.3	0.2	0.3	0.2	0.4	0.3	0.4	0.0	0.5	0.3	0.3	0.0	0%
All Days	---	---	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.0	0.3	0.2	0.2	0.0	0%
Coarse Mass Extinction (Mm-1)																	
Best 20% Days	---	---	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.0	0.0	0.3	0.3	0.0	0%
Worst 20% Days	---	---	1.7	1.7	1.9	1.4	2.1	1.4	1.5	1.6	1.5	0.0	0.4	1.8	1.6	-0.2	-11%
All Days	---	---	1.2	1.1	1.1	0.9	1.0	0.8	0.8	0.9	0.8	0.0	0.0	1.1	0.9	-0.2	-18%
Sea Salt Extinction (Mm-1)																	
Best 20% Days	---	---	0.4	0.6	0.9	1.2	1.2	0.6	0.5	0.5	0.2	0.0	0.6	0.6	0.8	0.2	33%
Worst 20% Days	---	---	0.3	1.6	2.5	1.0	1.1	1.2	1.4	2.0	2.2	0.1	0.1	1.4	1.4	0.0	0%
All Days	---	---	0.6	1.0	1.6	1.1	1.4	1.2	1.1	1.3	1.2	0.0	0.1	1.1	1.2	0.1	9%

*Values highlighted in blue (red) indicate statistically significant decreasing (increasing) annual trend. Significance is measured at the 85% confidence level (p-value ≤0.15).

**Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

---" Indicates a missing year that did not meet RHR data completeness criteria.

Figure N.3-1
Olympic NP, WA (OLYM1 Site)
Annual and 5-Year Period Averages
20% Most Impaired Visibility Days

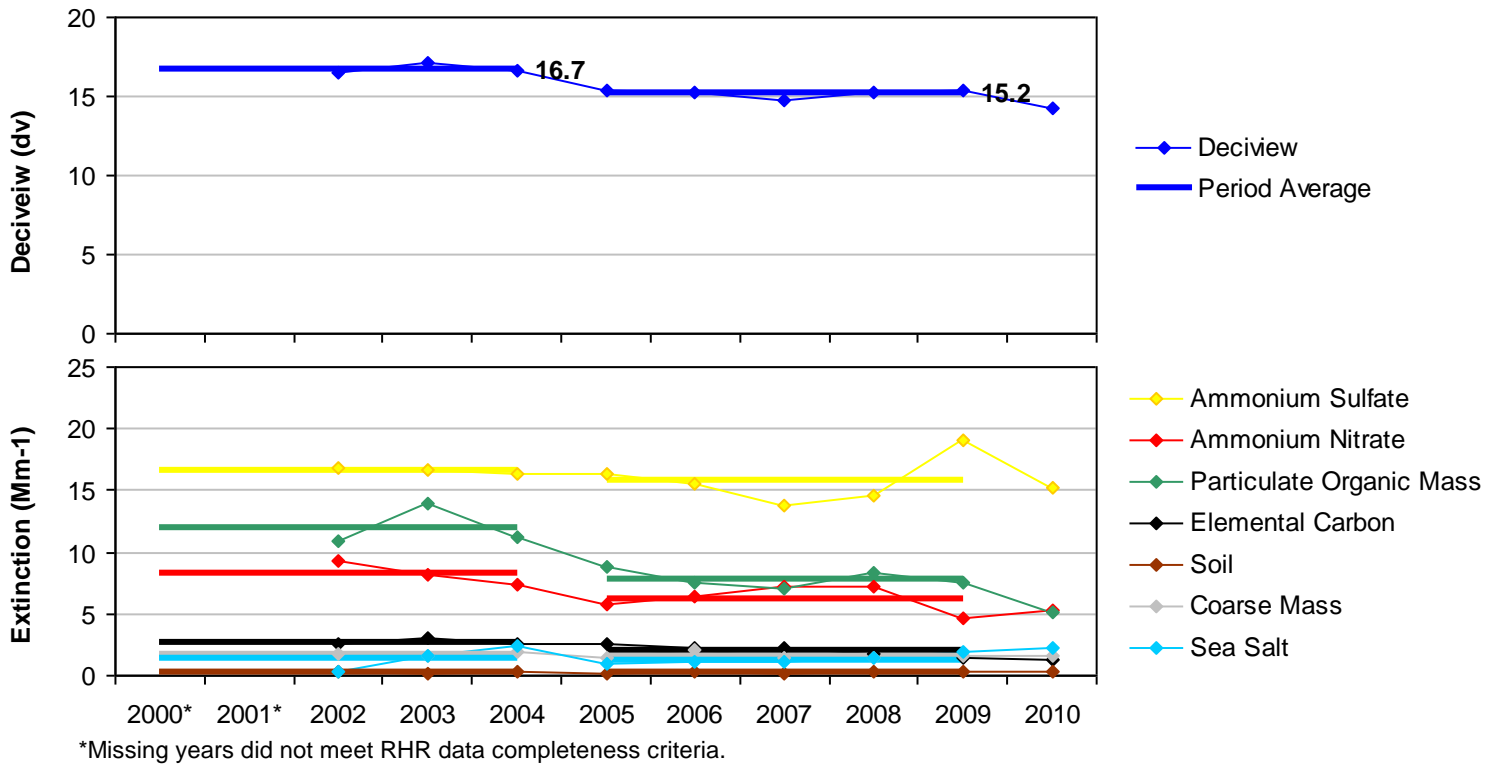


Figure N.3-2
Olympic NP, WA (OLYM1 Site)
Annual and 5-Year Period Averages
20% Least Impaired Visibility Days

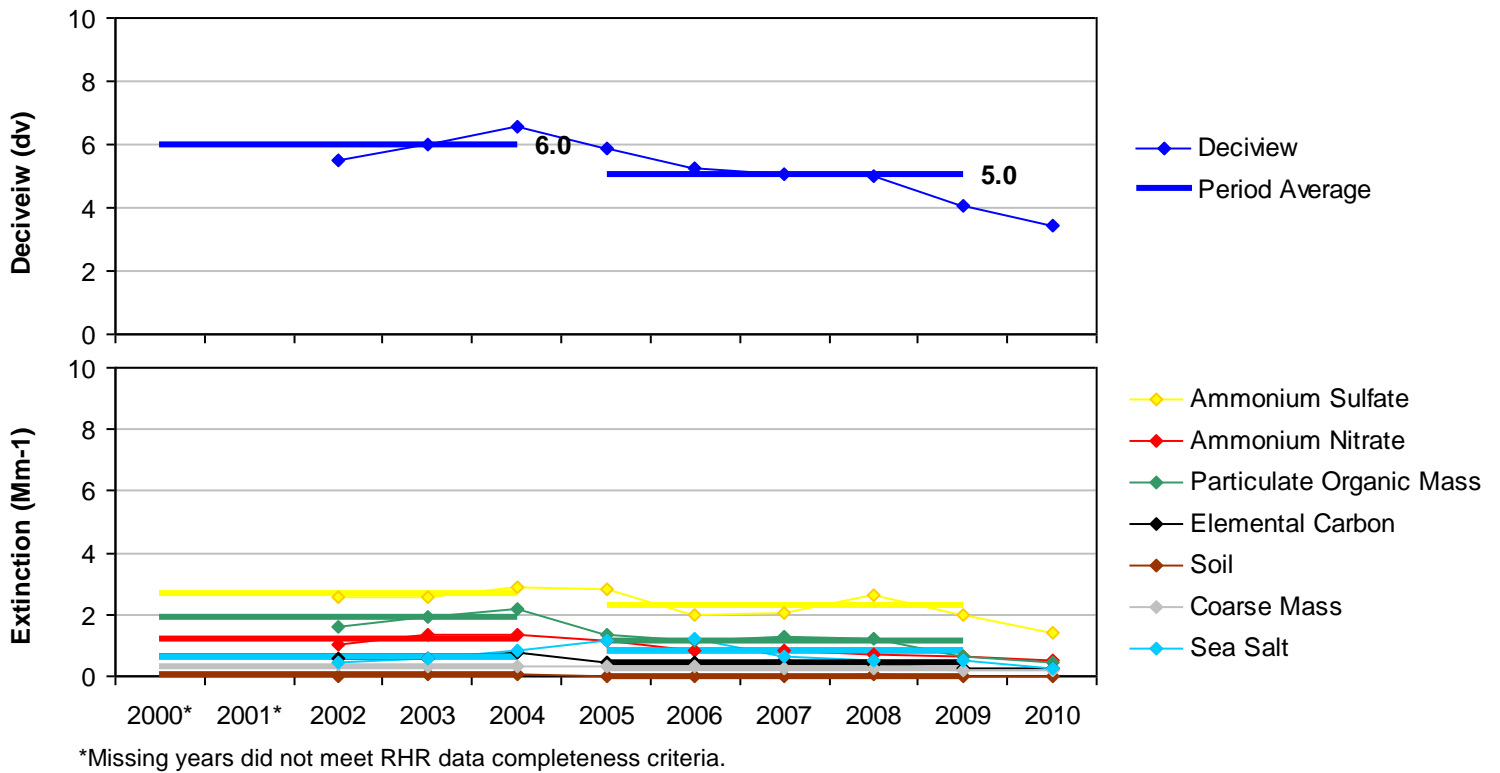
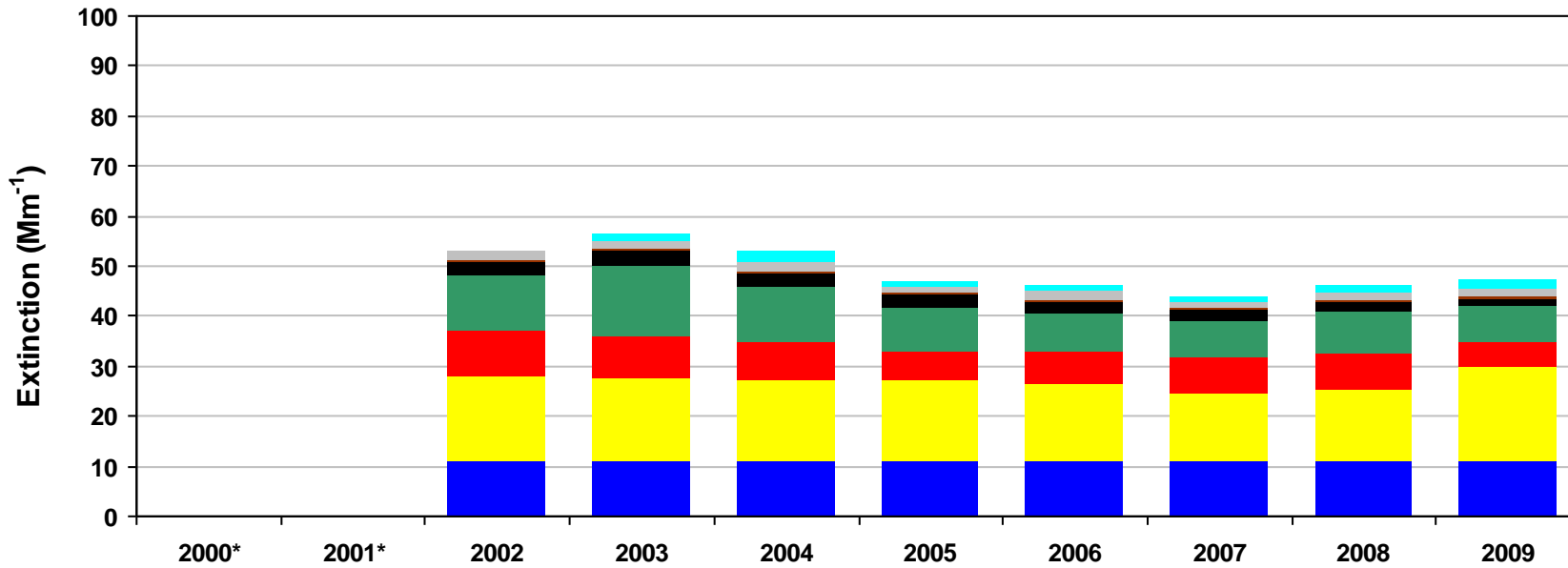
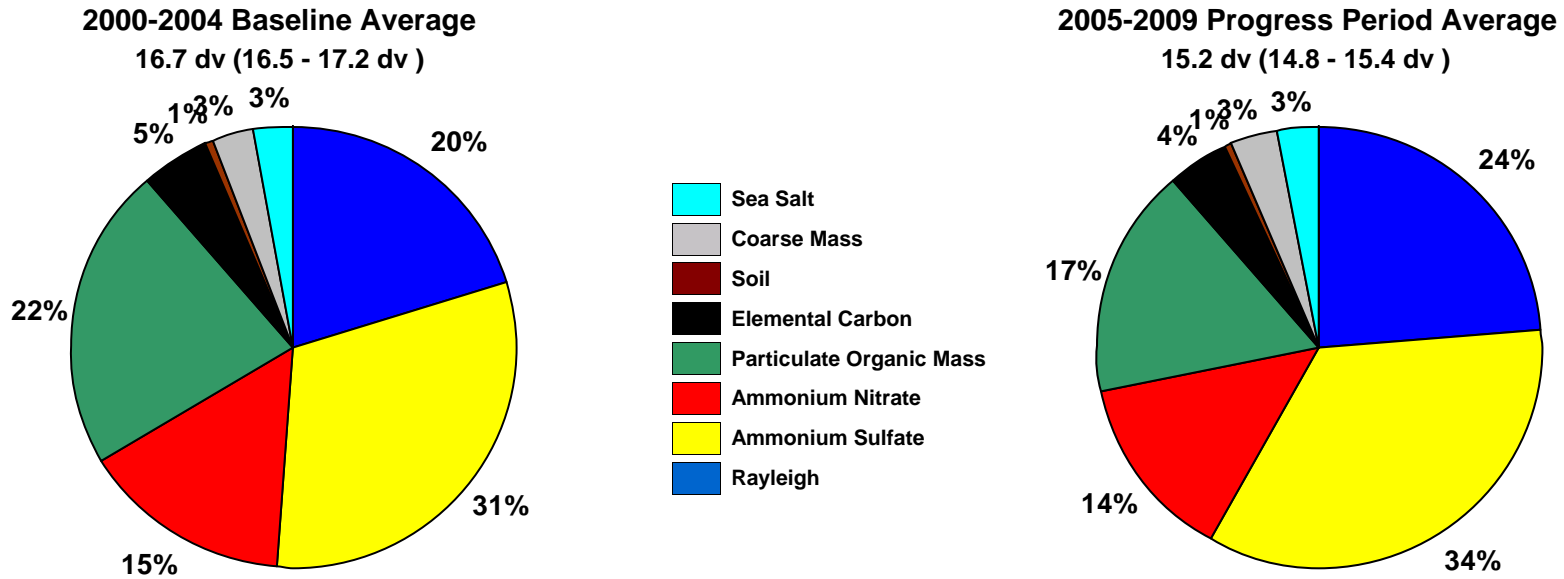


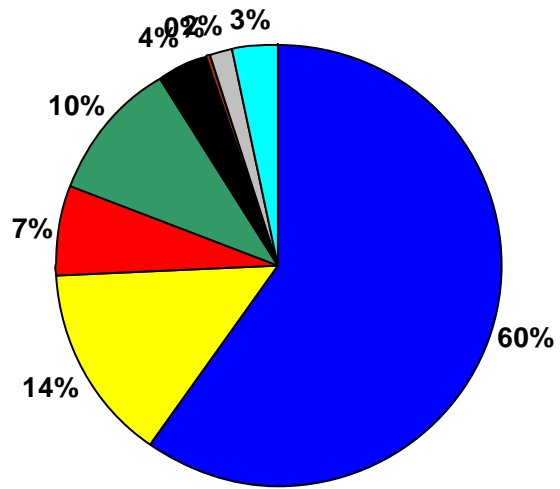
Figure N.3-3
Olympic NP, WA (OLYM1 Site)
20% Most Impaired Visibility Days



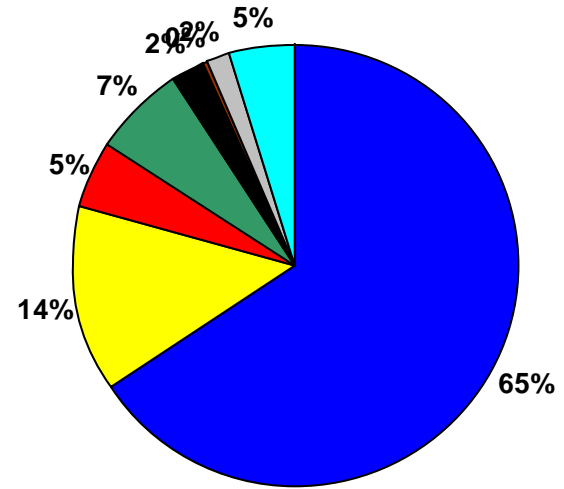
*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.3-4
Olympic NP, WA (OLYM1 Site)
20% Least Impaired Visibility Days

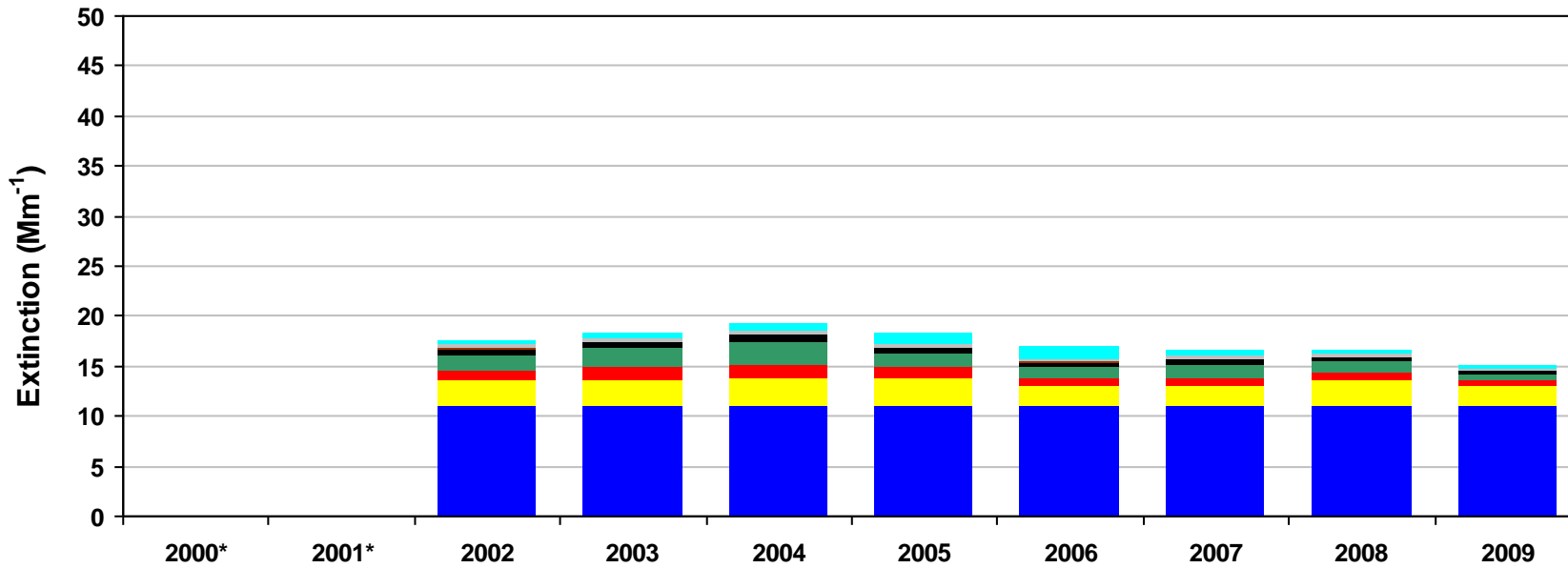
2000-2004 Baseline Average
 6 dv (5.5 - 6.5 dv)



2005-2009 Progress Period Average
 5 dv (4.1 - 5.9 dv)

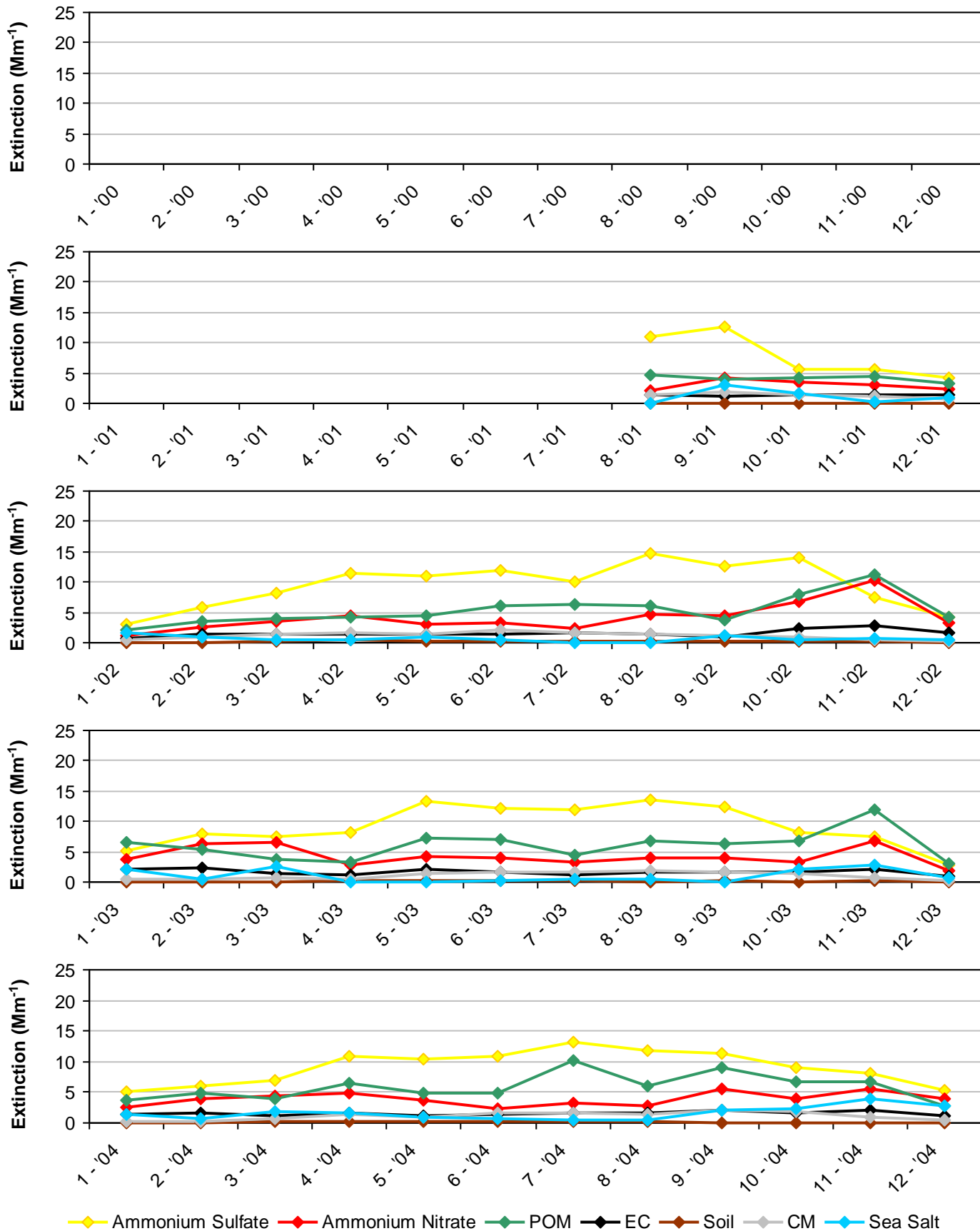


- Sea Salt
- Coarse Mass
- Soil
- Elemental Carbon
- Particulate Organic Mass
- Ammonium Nitrate
- Ammonium Sulfate
- Rayleigh



*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.3-5
Olympic NP, WA (OLYM1 Site)
2000-2004 Monthly Average Aerosol Extinction, All Monitored Days



*Note that monthly averages for the years 2000 and 2001 are shown here, but these years did not meet RHR data completeness criteria.

Figure N.3-6
Olympic NP, WA (OLYM1 Site)
2005-2009 Monthly Average Aerosol Extinction, All Monitored Days

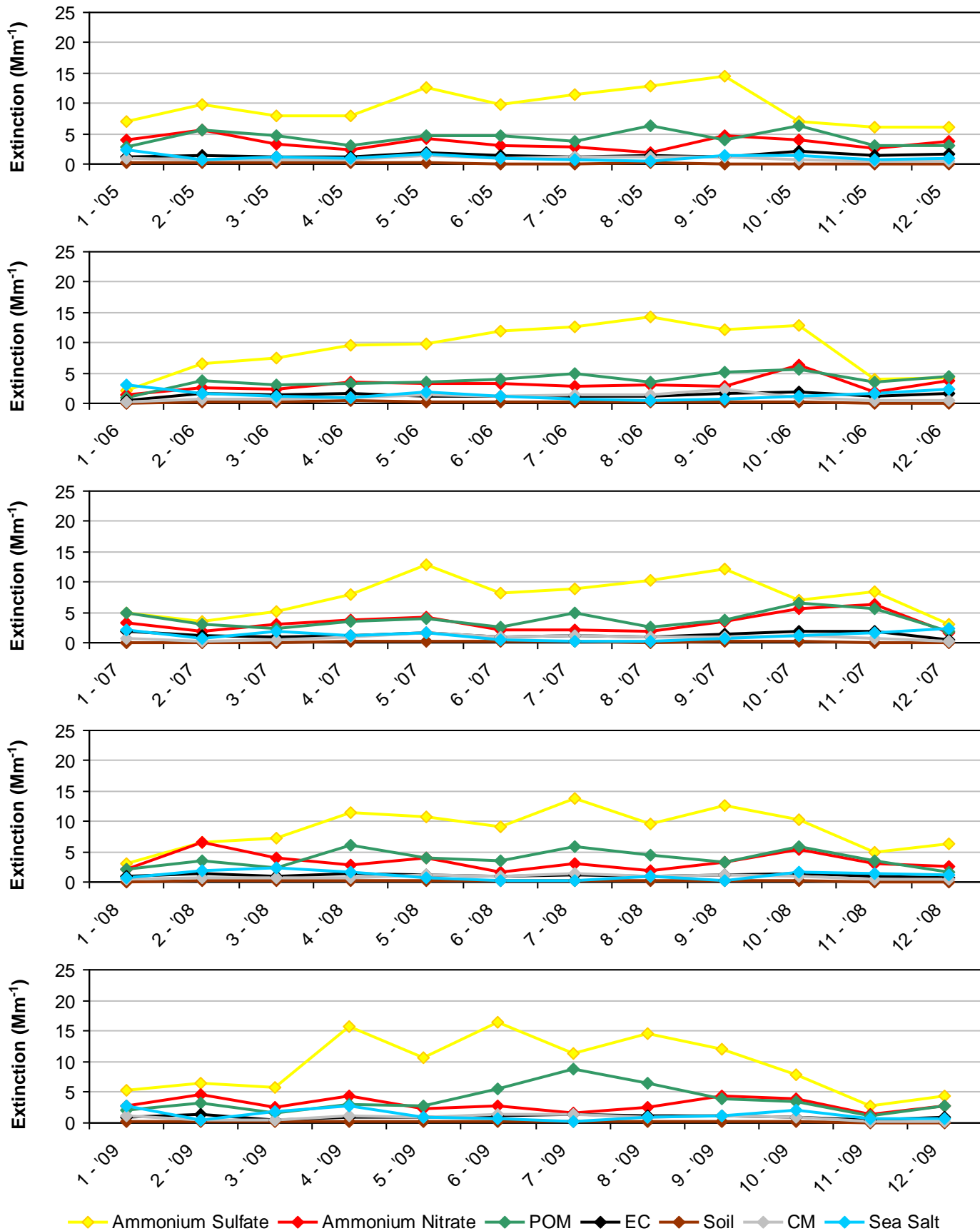
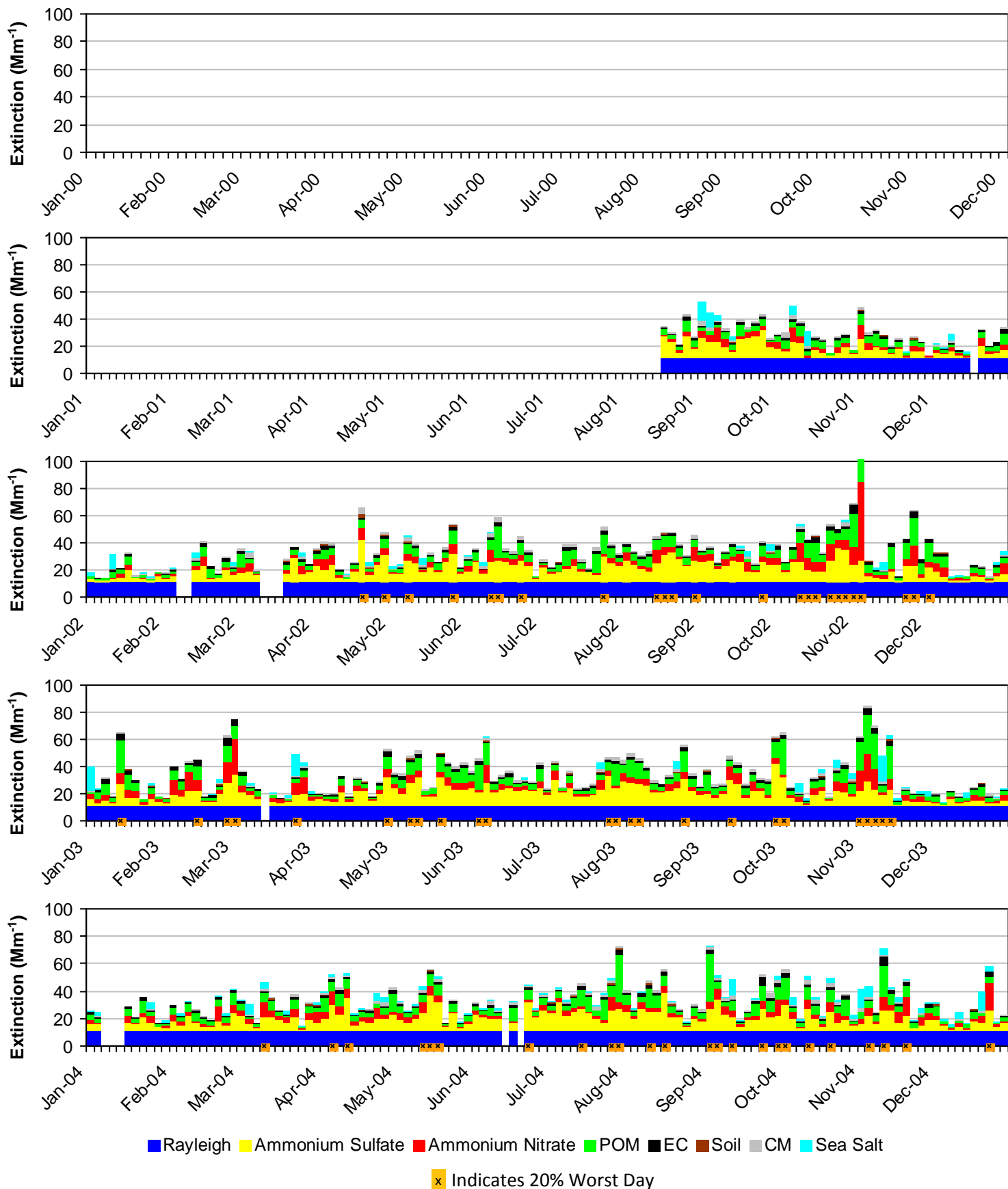
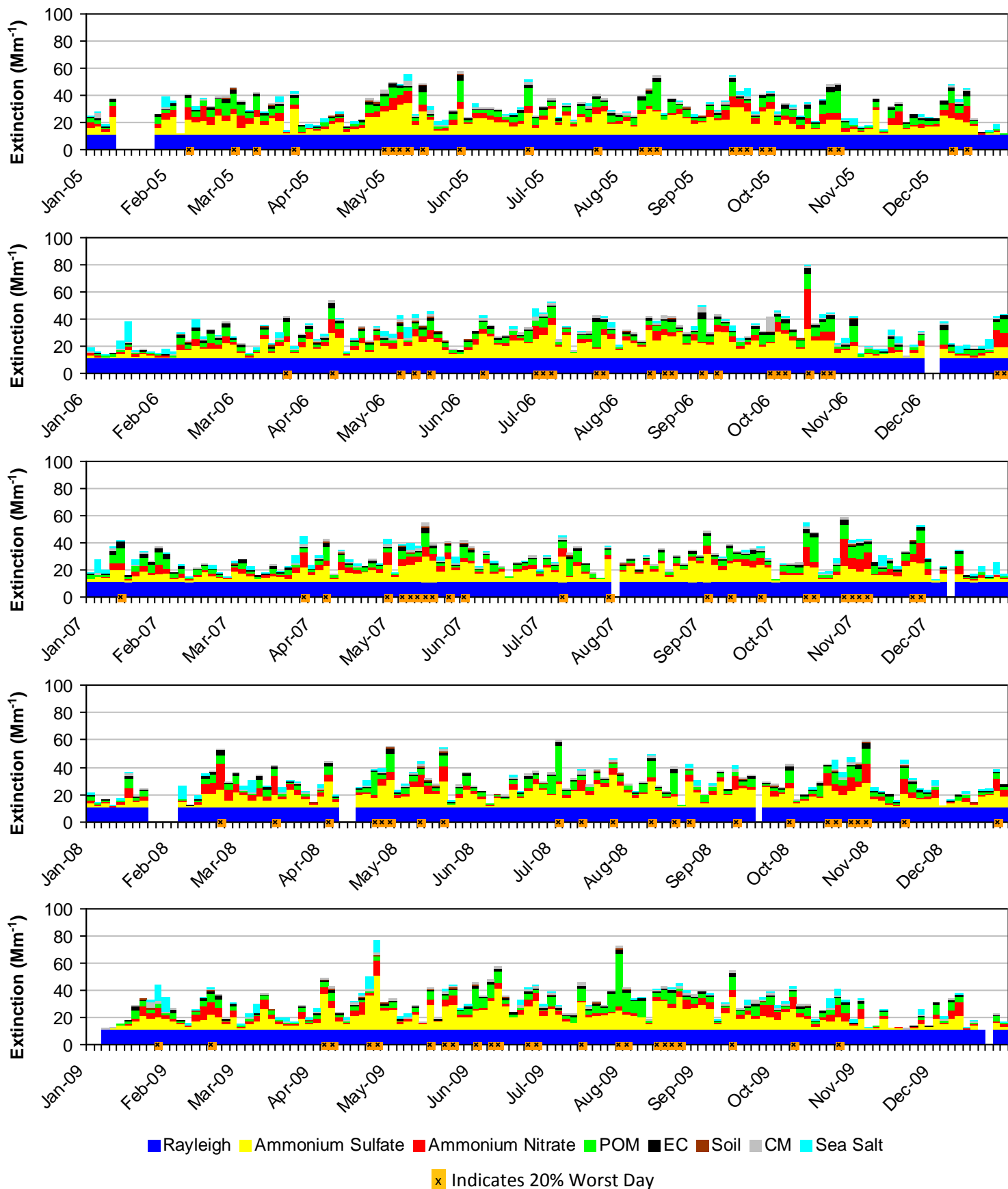


Figure N.3-7
Olympic NP, WA (OLYM1 Site)
2000-2004 Progress Period Extinction, All Sampled Days



*Note that daily averages for the years 2000 and 2001 are shown here, but these years did not meet RHR data completeness criteria.

Figure N.3-8
Olympic NP, WA (OLYM1 Site)
2005-2009 Progress Period Extinction, All Sampled Days



N.4. PASAYTEN WA (PASA1)

The following tables and figures are presented in this section for the Pasayten WA represented by the PASA1 IMPROVE Monitor:

- **Table N.4-1: Annual Averages, 5-Year Period Averages, and Trends:** Table of averages and other metrics for the 20% least impaired days, the 20% most impaired days, and all sampled days is presented.
- **Figure N.4-1: Annual and 5-Year Period Averages for the 20% Most Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.4-2: Annual and 5-Year Period Averages for the 20% Least Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.4-3: 20% Most Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component for the 20% most impaired days are presented.
- **Figure N.4-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure N.4-5: 2000-2004 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the baseline period are presented.
- **Figure N.4-6: 2005-2009 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the progress period are presented.
- **Figure N.4-7: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the baseline period are presented.
- **Figure N.4-8: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the progress period are presented.

**Table N.4-1
Pasayten WA, WA (PASA1 Site)
Annual Averages, 5-Year Period Averages and Trends**

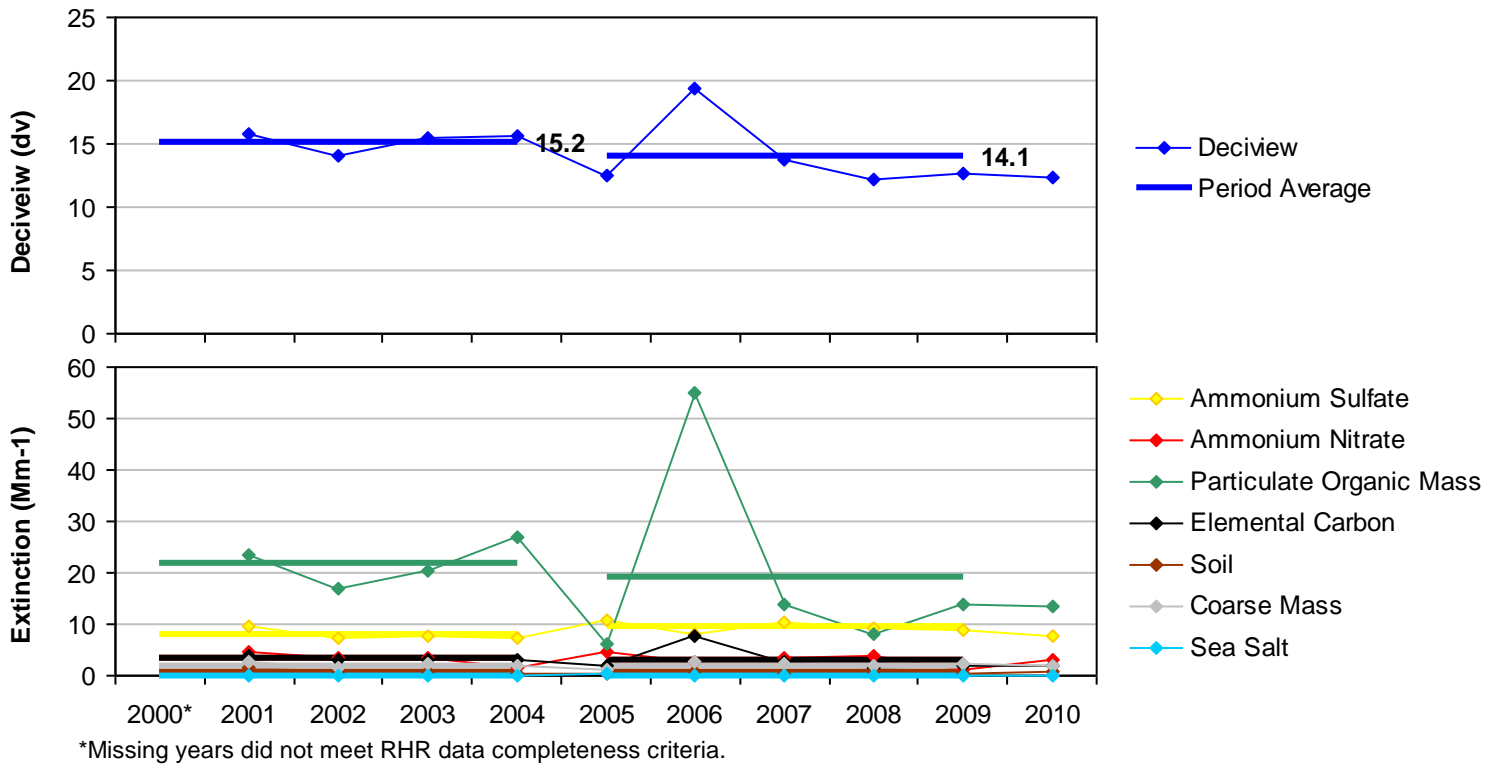
Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P - B)	Percent Change
Deciview (dv)																	
Best 20% Days	---	2.9	2.6	2.5	2.9	3.2	2.0	2.4	2.7	2.3	1.5	0.0	0.1	2.7	2.5	-0.2	-7%
Worst 20% Days	---	15.7	14.1	15.4	15.7	12.4	19.4	13.8	12.2	12.7	12.4	-0.4	0.1	15.2	14.1	-1.1	-7%
All Days	---	8.1	7.8	7.9	7.9	7.3	8.6	6.9	6.9	7.1	6.0	-0.1	0.1	7.9	7.4	-0.5	-6%
Total Extinction (Mm-1)																	
Best 20% Days	---	13.5	13.1	12.8	13.3	13.9	12.3	12.7	13.1	12.7	11.7	-0.1	0.1	13.2	12.9	-0.3	-2%
Worst 20% Days	---	55.9	42.9	47.8	51.6	35.6	87.2	43.0	35.1	38.6	38.7	-1.8	0.1	49.5	47.9	-1.6	-3%
All Days	---	26.6	24.1	24.8	25.4	22.0	32.8	22.4	21.4	22.4	20.4	-0.5	0.1	25.2	24.2	-1.0	-4%
Ammonium Sulfate Extinction (Mm-1)																	
Best 20% Days	---	1.7	1.4	1.4	1.6	1.9	1.1	1.4	1.9	1.4	0.9	0.0	0.5	1.5	1.5	0.0	0%
Worst 20% Days	---	9.7	7.1	7.9	7.5	10.9	8.1	10.3	9.3	8.8	7.6	0.2	0.2	8.1	9.5	1.4	17%
All Days	---	5.4	4.4	4.3	4.4	5.4	4.6	4.5	5.1	4.9	3.6	0.1	0.2	4.6	4.9	0.3	7%
Ammonium Nitrate Extinction (Mm-1)																	
Best 20% Days	---	0.6	0.6	0.4	0.5	0.5	0.3	0.5	0.4	0.5	0.3	0.0	0.0	0.5	0.4	-0.1	-20%
Worst 20% Days	---	4.8	3.5	3.5	1.3	4.7	2.8	3.3	3.8	1.3	2.9	-0.2	0.1	3.3	3.2	-0.1	-3%
All Days	---	2.1	1.6	1.5	1.2	1.9	1.6	1.5	1.4	1.3	1.3	-0.1	0.0	1.6	1.5	-0.1	-6%
Particulate Organic Mass Extinction (Mm-1)																	
Best 20% Days	---	0.6	0.5	0.6	0.6	0.6	0.4	0.3	0.4	0.2	0.2	0.0	0.1	0.5	0.4	-0.1	-20%
Worst 20% Days	---	23.3	16.9	20.3	27.1	6.2	55.1	13.9	7.9	13.8	13.6	-1.3	0.2	21.9	19.4	-2.5	-11%
All Days	---	6.3	5.8	6.5	7.4	2.8	13.1	4.2	3.1	4.1	3.8	-0.3	0.2	6.5	5.5	-1.0	-15%
Elemental Carbon Extinction (Mm-1)																	
Best 20% Days	---	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	-0.1	-50%
Worst 20% Days	---	3.9	3.0	3.2	3.2	1.8	7.5	2.5	1.4	1.9	2.0	-0.2	0.1	3.3	3.0	-0.3	-9%
All Days	---	1.3	1.1	1.2	1.1	0.8	2.0	0.9	0.6	0.7	0.7	-0.1	0.0	1.2	1.0	-0.2	-17%
Soil Extinction (Mm-1)																	
Best 20% Days	---	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.0	0%
Worst 20% Days	---	1.4	0.7	0.6	0.5	0.5	0.8	0.6	0.7	0.5	0.7	0.0	0.1	0.8	0.6	-0.2	-25%
All Days	---	0.5	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.0	0.2	0.3	0.3	0.0	0%
Coarse Mass Extinction (Mm-1)																	
Best 20% Days	---	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.2	0.1	0.0	0.2	0.2	0.2	0.0	0%
Worst 20% Days	---	2.6	1.6	2.2	1.9	1.3	2.8	2.2	1.9	2.2	1.9	0.0	0.5	2.1	2.1	0.0	0%
All Days	---	1.0	0.9	0.9	0.8	0.6	1.0	0.9	0.9	1.0	0.8	0.0	0.5	0.9	0.9	0.0	0%
Sea Salt Extinction (Mm-1)																	
Best 20% Days	---	0.1	0.2	0.1	0.1	0.3	0.1	0.3	0.1	0.1	0.1	0.0	0.4	0.1	0.2	0.1	100%
Worst 20% Days	---	0.2	0.0	0.1	0.0	0.2	0.0	0.1	0.1	0.2	0.0	0.0	0.4	0.1	0.1	0.0	0%
All Days	---	0.1	0.0	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.0	0.0	0.2	0.1	0.2	0.1	100%

*Values highlighted in blue (red) indicate statistically significant decreasing (increasing) annual trend. Significance is measured at the 85% confidence level (p-value ≤0.15).

**Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

---" Indicates a missing year that did not meet RHR data completeness criteria.

**Figure N.4-1
Pasayten WA, WA (PASA1 Site)
Annual and 5-Year Period Averages
20% Most Impaired Visibility Days**



**Figure N.4-2
Pasayten WA, WA (PASA1 Site)
Annual and 5-Year Period Averages
20% Least Impaired Visibility Days**

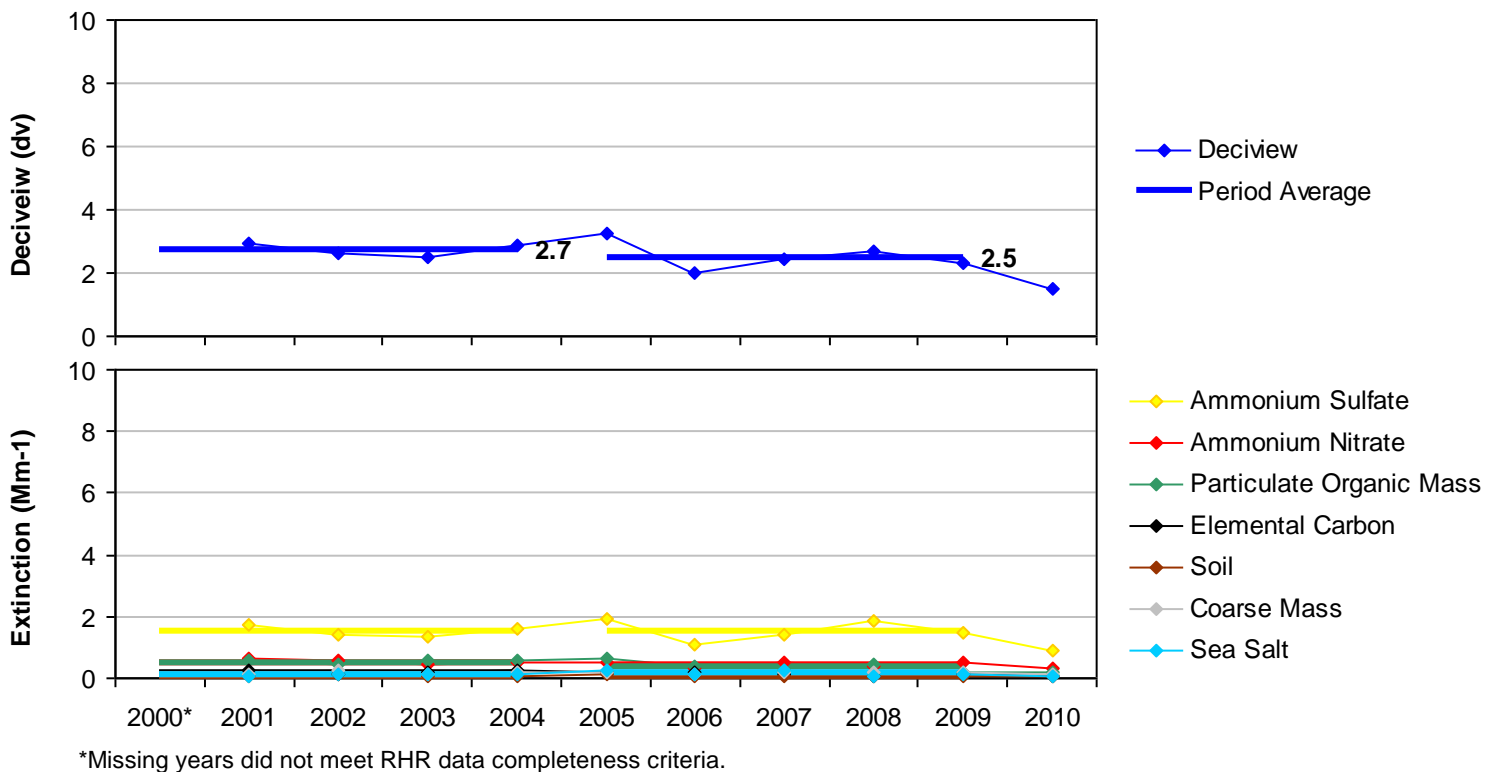
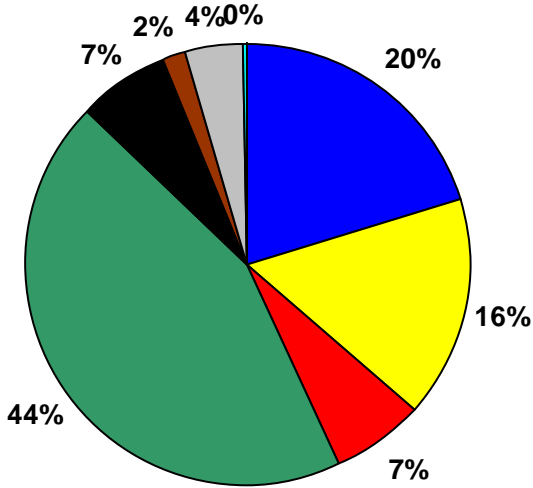
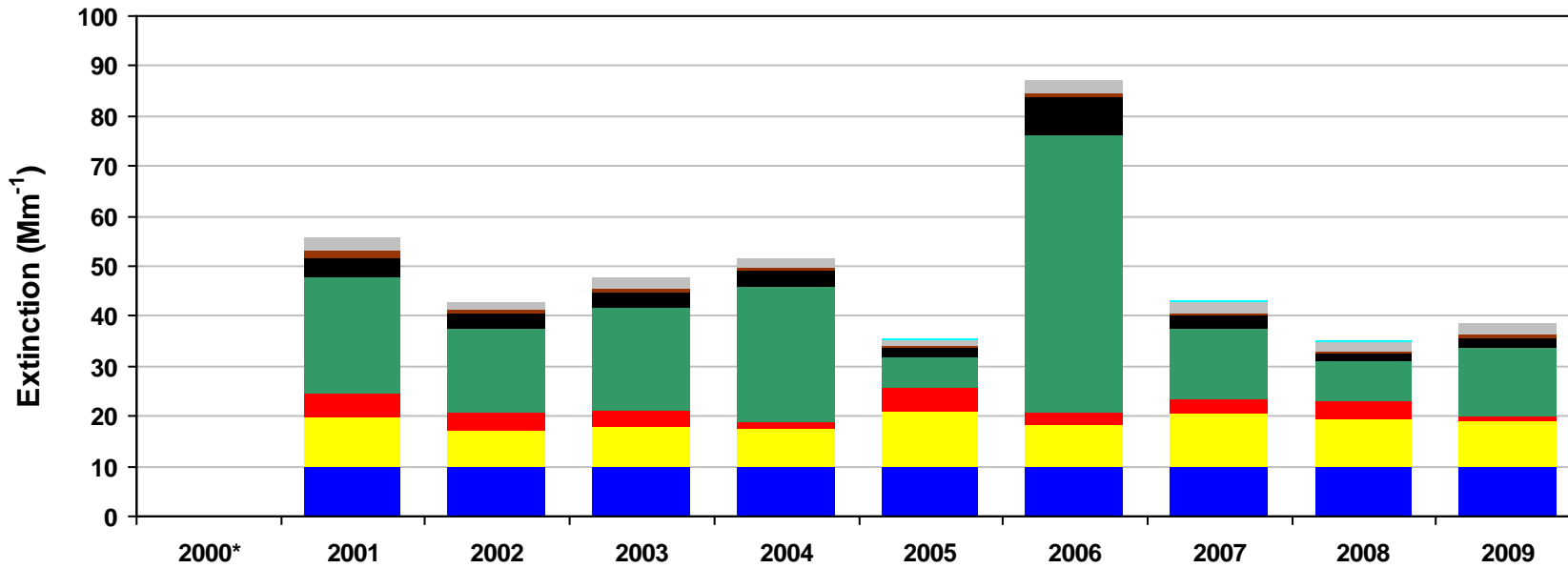
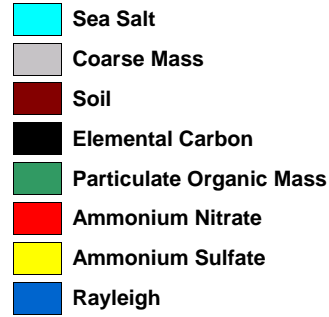
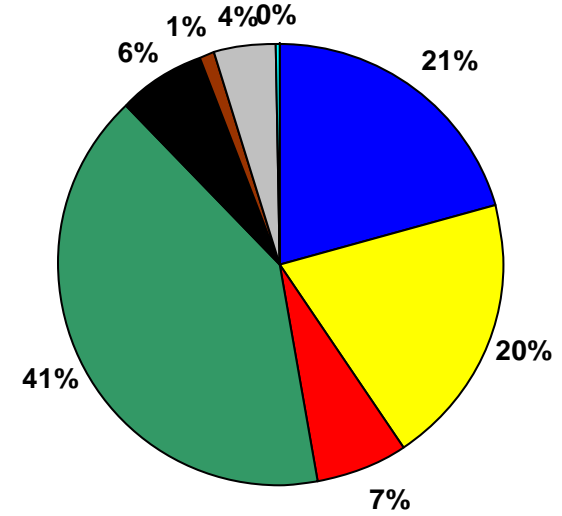


Figure N.4-3
Pasayten WA, WA (PASA1 Site)
20% Most Impaired Visibility Days

2000-2004 Baseline Average
 15.2 dv (14.1 - 15.7 dv)

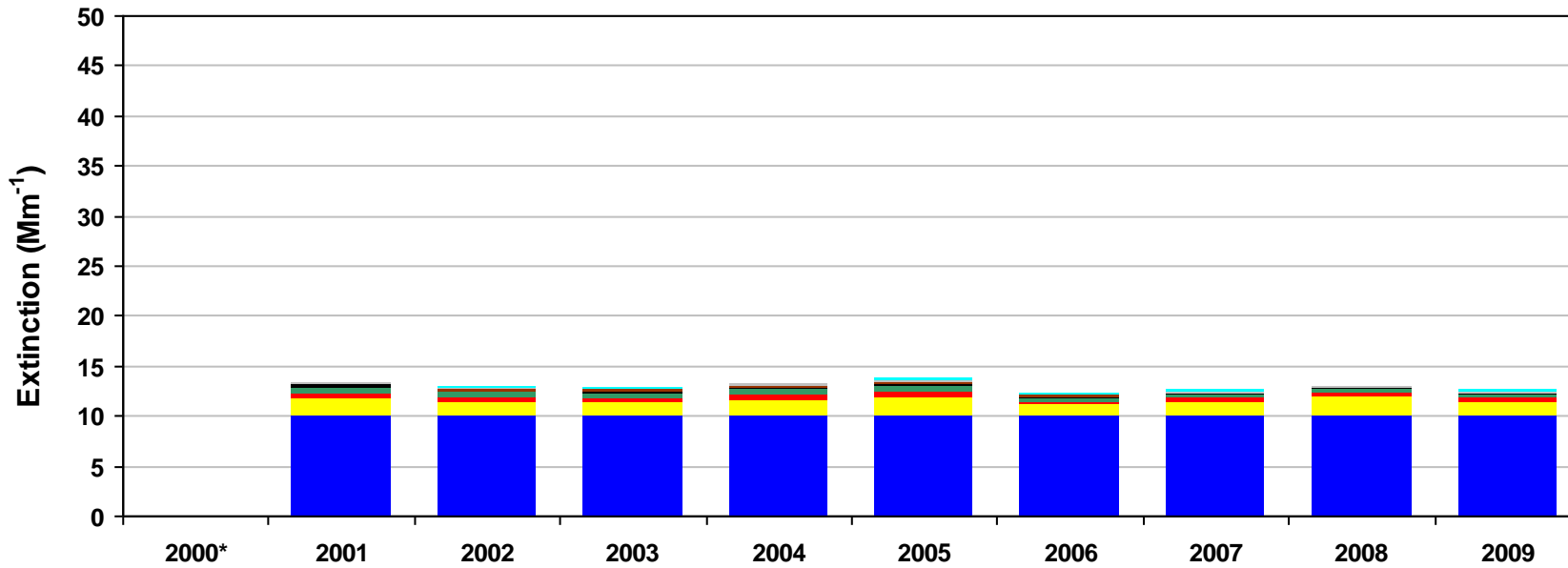
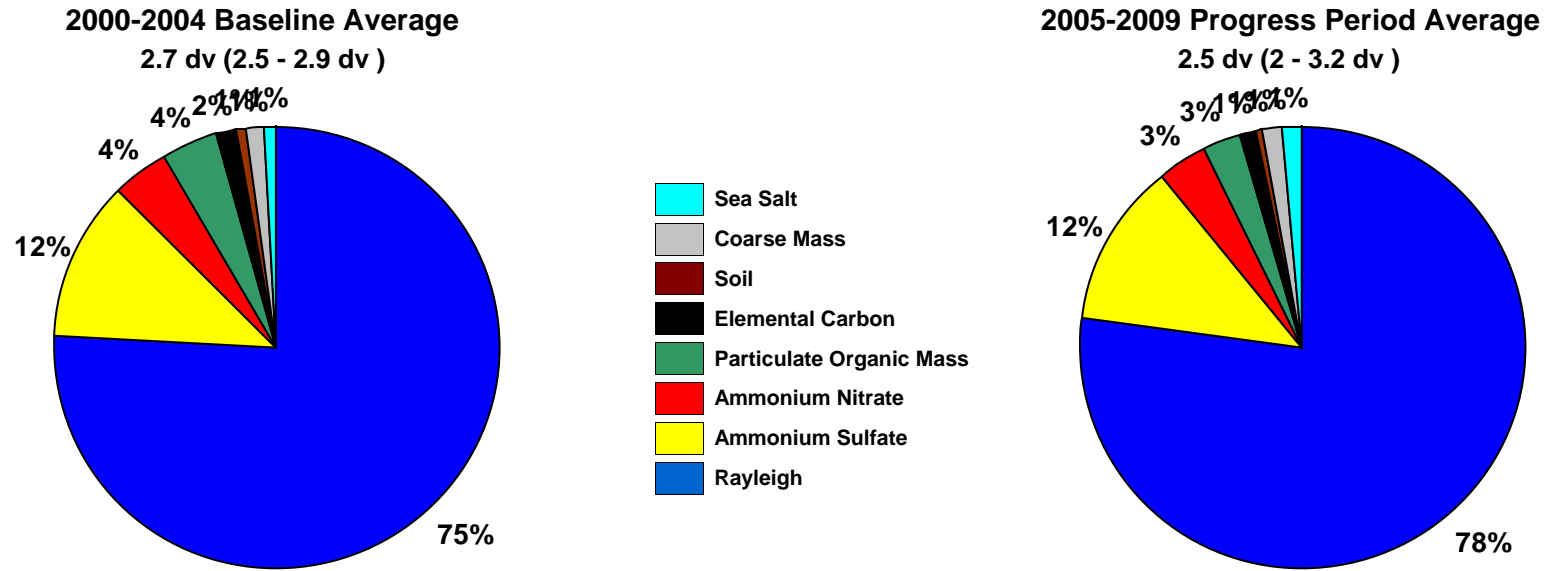


2005-2009 Progress Period Average
 14.1 dv (12.2 - 19.4 dv)



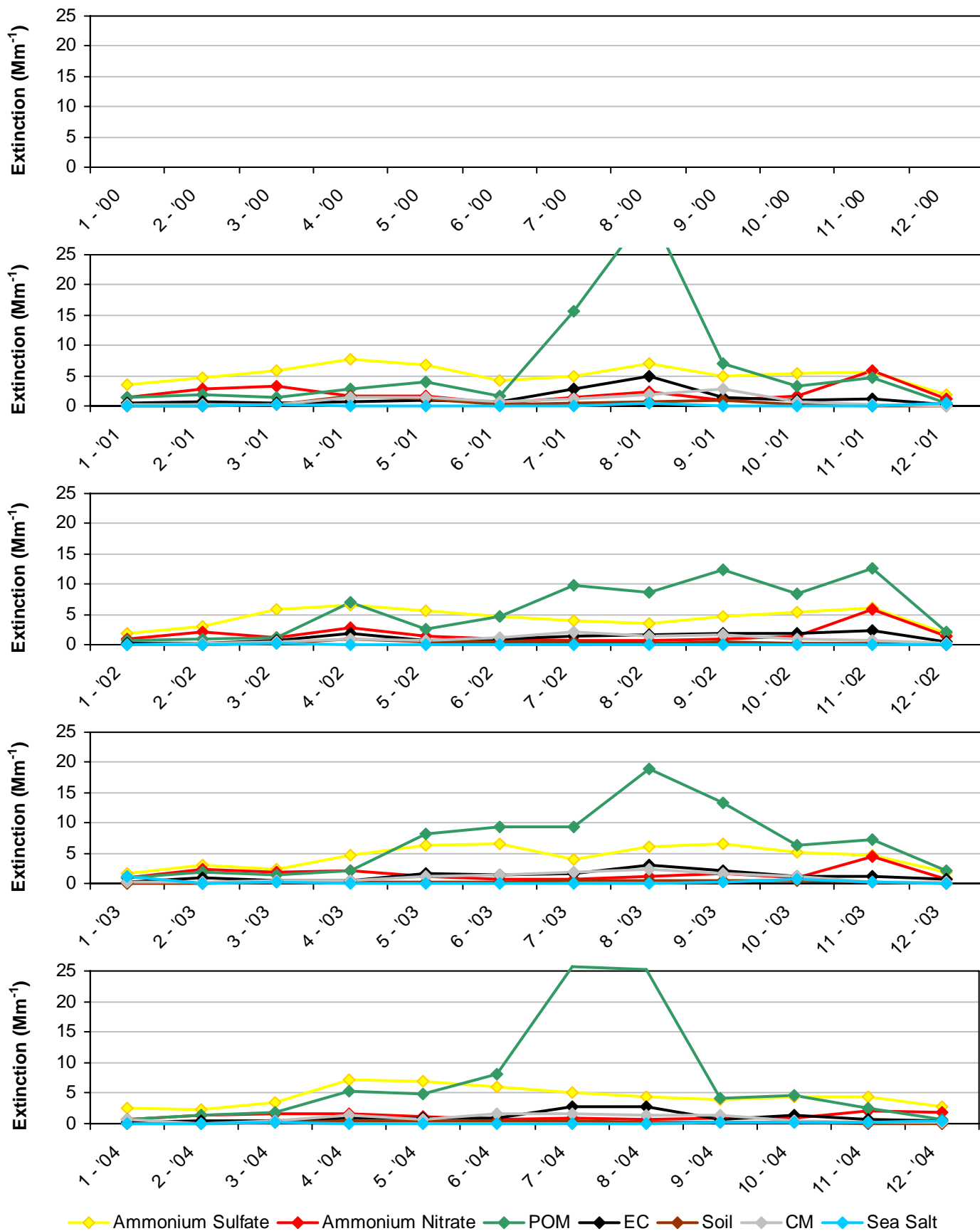
*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.4-4
Pasayten WA, WA (PASA1 Site)
20% Least Impaired Visibility Days



*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.4-5
Pasayten WA, WA (PASA1 Site)
2000-2004 Monthly Average Aerosol Extinction, All Monitored Days



*Note that monthly averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.4-6
Pasayten WA, WA (PASA1 Site)
2005-2009 Monthly Average Aerosol Extinction, All Monitored Days

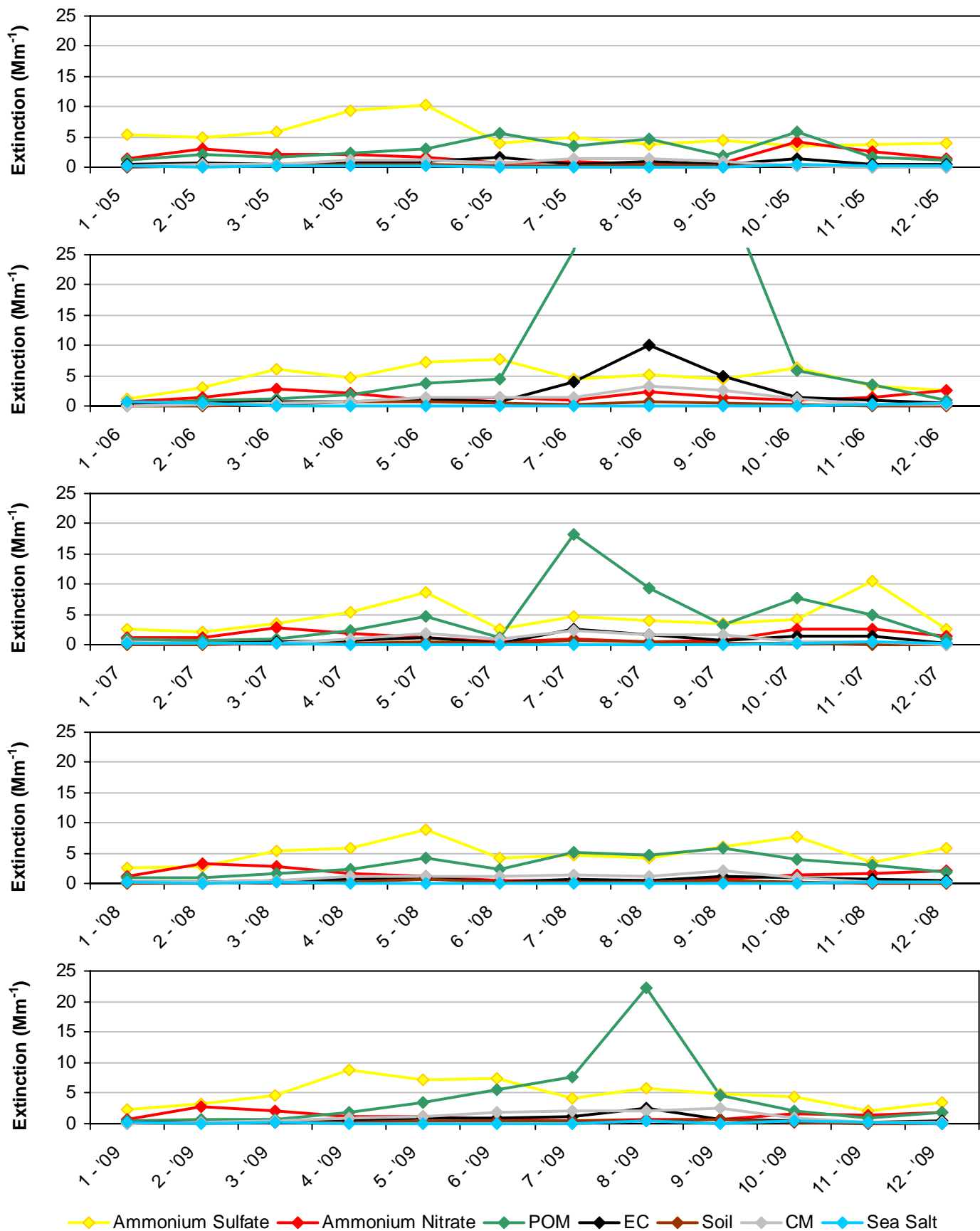
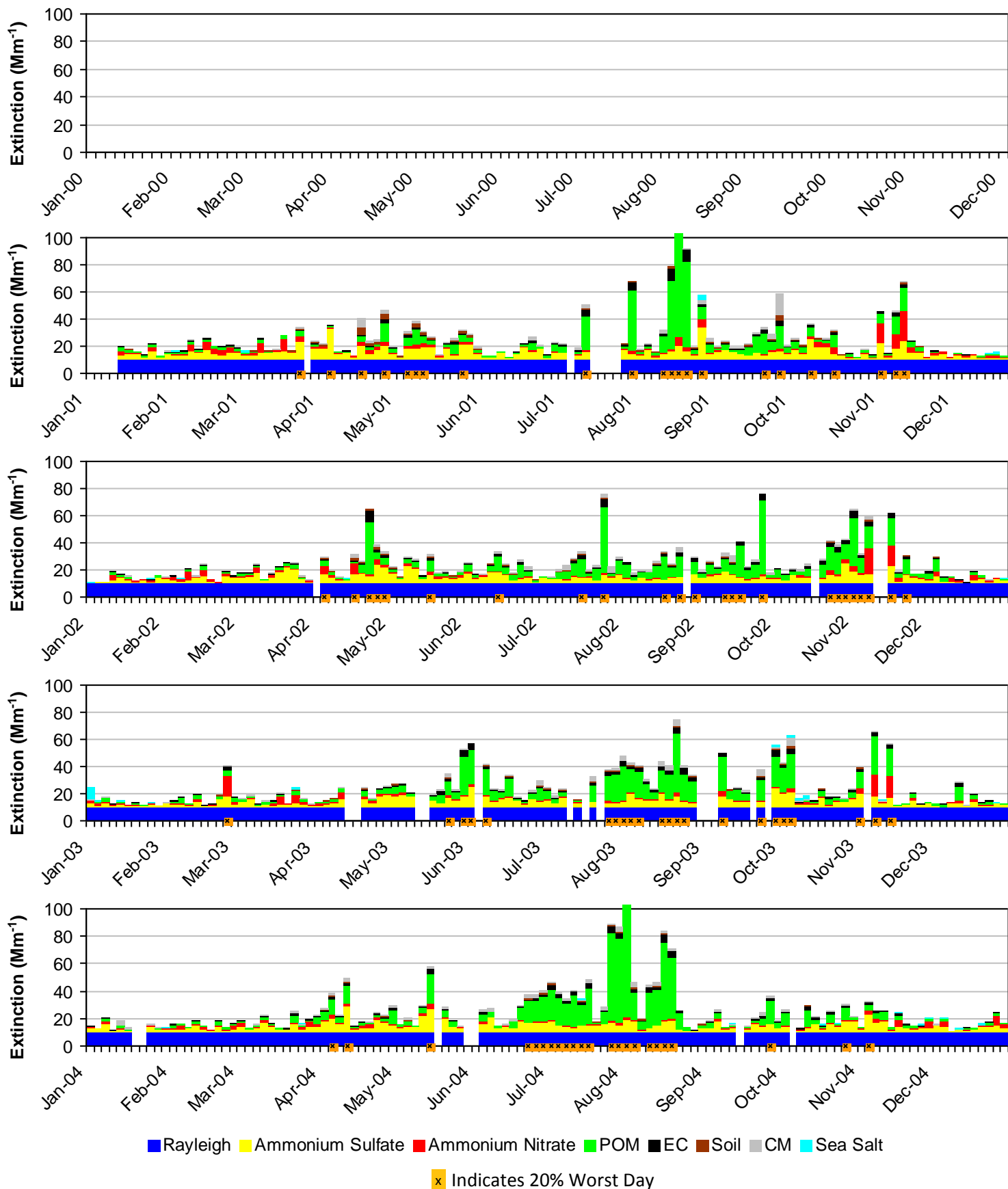
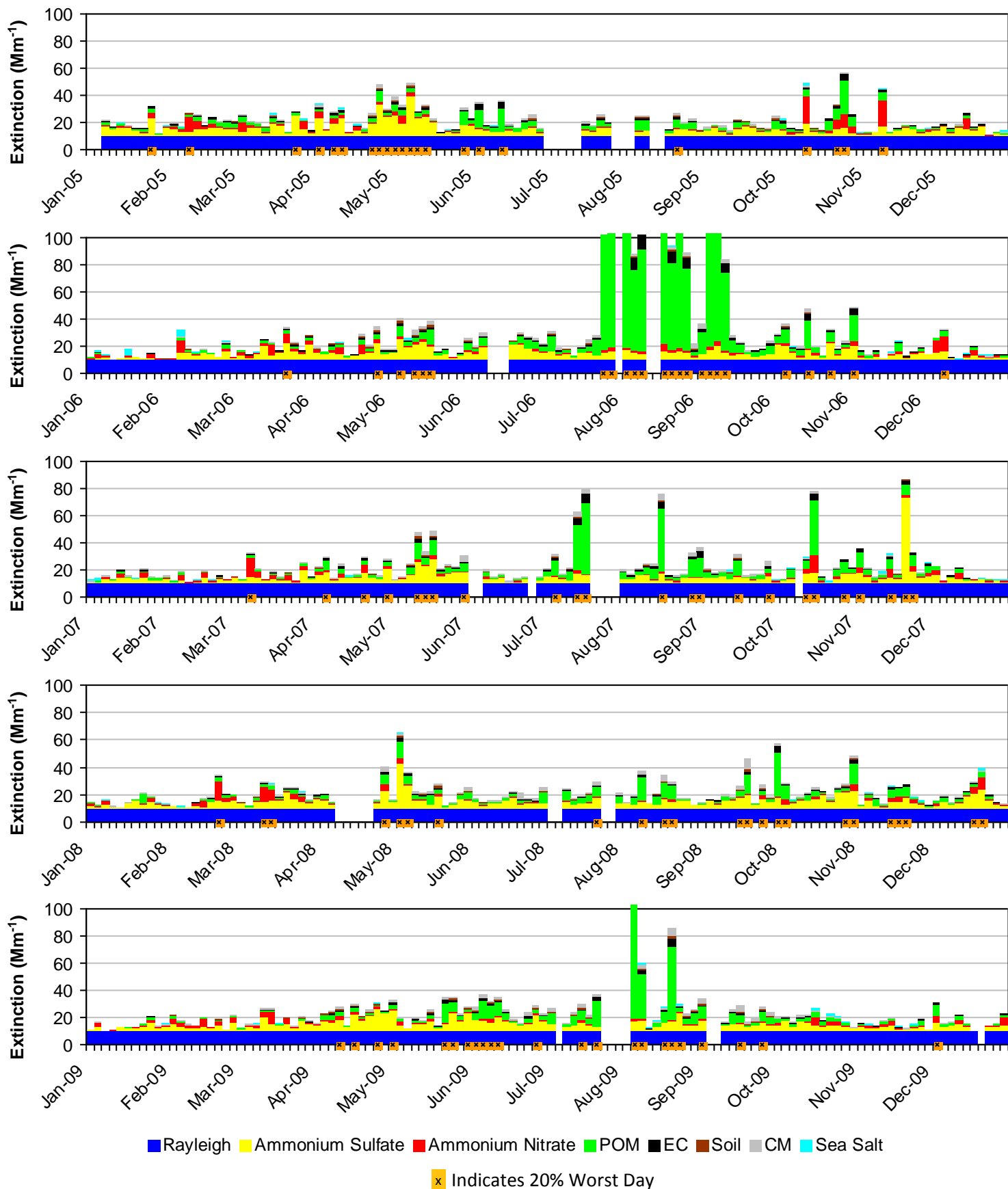


Figure N.4-7
Pasayten WA, WA (PASA1 Site)
2000-2004 Progress Period Extinction, All Sampled Days



*Note that daily averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.4-8
Pasayten WA, WA (PASA1 Site)
2005-2009 Progress Period Extinction, All Sampled Days



N.5. ALPINE LAKES WA (SNPA1)

The following tables and figures are presented in this section for the Alpine Lakes WA represented by the SNPA1 IMPROVE Monitor:

- **Table N.5-1: Annual Averages, 5-Year Period Averages, and Trends:** Table of averages and other metrics for the 20% least impaired days, the 20% most impaired days, and all sampled days is presented.
- **Figure N.5-1: Annual and 5-Year Period Averages for the 20% Most Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.5-2: Annual and 5-Year Period Averages for the 20% Least Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.5-3: 20% Most Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component for the 20% most impaired days are presented.
- **Figure N.5-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure N.5-5: 2000-2004 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the baseline period are presented.
- **Figure N.5-6: 2005-2009 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the progress period are presented.
- **Figure N.5-7: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the baseline period are presented.
- **Figure N.5-8: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the progress period are presented.

**Table N.5-1
Alpine Lakes WA, WA (SNPA1 Site)
Annual Averages, 5-Year Period Averages and Trends**

Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P-B)	Percent Change
Deciview (dv)																	
Best 20% Days	---	6.5	5.4	4.7	5.4	5.4	4.9	4.9	4.5	4.9	3.3	-0.1	0.0	5.5	4.9	-0.6	-11%
Worst 20% Days	---	17.5	17.9	18.7	17.2	16.1	16.7	16.2	14.9	16.6	14.6	-0.3	0.0	17.8	16.1	-1.7	-10%
All Days	---	11.8	11.6	11.2	11.1	10.7	10.5	10.0	9.6	10.6	8.6	-0.3	0.0	11.5	10.3	-1.2	-10%
Total Extinction (Mm-1)																	
Best 20% Days	---	19.2	17.3	16.2	17.2	17.3	16.5	16.3	15.8	16.5	14.0	-0.2	0.0	17.5	16.5	-1.0	-6%
Worst 20% Days	---	58.2	64.5	66.7	57.0	51.2	54.1	52.5	45.5	53.4	44.3	-1.7	0.0	61.6	51.3	-10.3	-17%
All Days	---	35.2	36.1	34.9	33.3	31.6	31.2	30.0	28.1	31.6	25.9	-1.1	0.0	34.9	30.5	-4.4	-13%
Ammonium Sulfate Extinction (Mm-1)																	
Best 20% Days	---	3.6	2.5	1.9	2.3	2.6	1.9	1.9	2.2	2.0	1.3	-0.1	0.1	2.6	2.1	-0.5	-19%
Worst 20% Days	---	19.3	15.8	17.4	15.8	14.3	17.3	14.2	13.7	15.3	13.7	-0.5	0.0	17.1	15.0	-2.1	-12%
All Days	---	10.8	9.2	8.5	8.1	8.4	8.1	7.0	7.7	8.3	6.2	-0.3	0.0	9.1	7.9	-1.2	-13%
Ammonium Nitrate Extinction (Mm-1)																	
Best 20% Days	---	1.5	1.2	0.9	1.0	1.3	1.2	1.0	0.5	0.9	0.6	-0.1	0.0	1.2	1.0	-0.2	-17%
Worst 20% Days	---	10.1	15.8	10.1	10.2	8.4	7.5	13.8	4.7	10.1	6.3	-0.7	0.1	11.6	8.9	-2.7	-23%
All Days	---	5.2	6.3	4.6	4.8	4.2	3.5	5.0	2.3	4.3	3.0	-0.3	0.0	5.2	3.8	-1.4	-27%
Particulate Organic Mass Extinction (Mm-1)																	
Best 20% Days	---	1.3	0.9	0.9	1.1	0.8	0.9	0.7	1.0	0.8	0.3	0.0	0.0	1.1	0.8	-0.3	-27%
Worst 20% Days	---	12.0	15.4	19.8	14.5	11.6	11.4	8.4	10.8	11.9	8.3	-0.5	0.0	15.4	10.8	-4.6	-30%
All Days	---	4.6	6.0	6.8	5.7	4.3	4.4	3.7	4.2	4.7	3.0	-0.2	0.1	5.8	4.3	-1.5	-26%
Elemental Carbon Extinction (Mm-1)																	
Best 20% Days	---	1.1	0.7	0.8	1.0	0.7	0.7	0.8	0.6	0.5	0.5	0.0	0.0	0.9	0.7	-0.2	-22%
Worst 20% Days	---	4.3	4.4	4.7	3.5	3.4	3.9	3.4	2.9	2.9	2.6	-0.2	0.0	4.2	3.3	-0.9	-21%
All Days	---	2.1	2.3	2.4	1.9	1.9	2.0	1.8	1.6	1.6	1.3	-0.1	0.0	2.2	1.8	-0.4	-18%
Soil Extinction (Mm-1)																	
Best 20% Days	---	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.1	0.0	-0.1	-100%
Worst 20% Days	---	0.4	0.5	0.4	0.4	0.3	0.5	0.3	0.5	0.4	0.5	0.0	0.5	0.4	0.4	0.0	0%
All Days	---	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.2	0.2	0.2	0.0	0%
Coarse Mass Extinction (Mm-1)																	
Best 20% Days	---	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.2	0.1	-0.1	-50%
Worst 20% Days	---	1.2	1.6	1.9	1.3	1.4	2.1	1.0	1.7	1.4	1.2	0.0	0.4	1.5	1.5	0.0	0%
All Days	---	0.8	0.8	0.8	0.7	0.7	0.9	0.5	0.7	0.8	0.6	0.0	0.2	0.8	0.7	-0.1	-13%
Sea Salt Extinction (Mm-1)																	
Best 20% Days	---	0.4	0.6	0.5	0.6	0.7	0.6	0.8	0.3	1.0	0.2	0.1	0.1	0.5	0.7	0.2	40%
Worst 20% Days	---	0.0	0.1	1.3	0.3	0.9	0.3	0.3	0.2	0.5	0.8	0.0	0.3	0.4	0.4	0.0	0%
All Days	---	0.4	0.3	0.6	0.8	0.9	1.1	0.9	0.4	0.8	0.6	0.1	0.1	0.5	0.8	0.3	60%

*Values highlighted in blue (red) indicate statistically significant decreasing (increasing) annual trend. Significance is measured at the 85% confidence level (p-value ≤0.15).

**Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

---" Indicates a missing year that did not meet RHR data completeness criteria.

Figure N.5-1
Alpine Lakes WA, WA (SNPA1 Site)
Annual and 5-Year Period Averages
20% Most Impaired Visibility Days

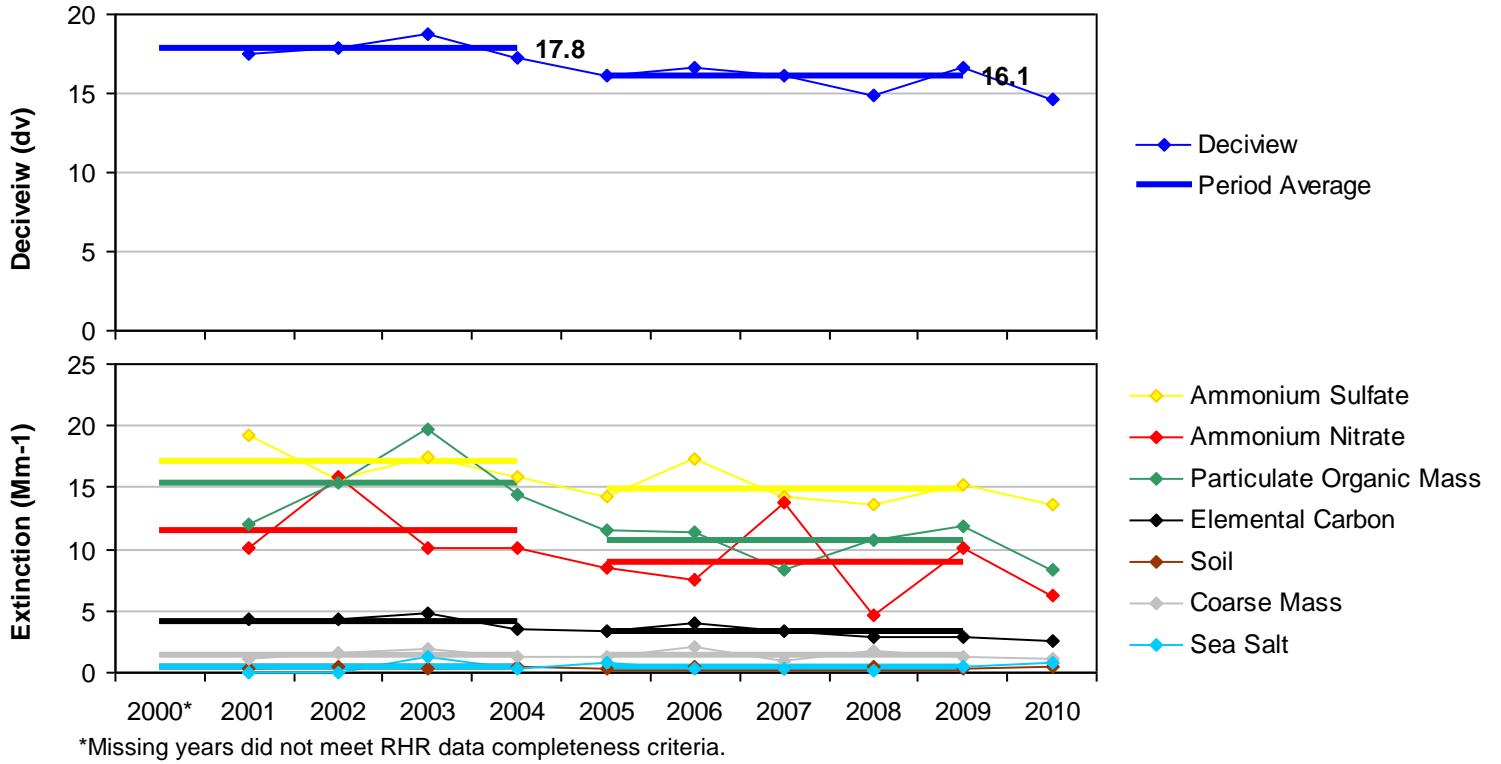


Figure N.5-2
Alpine Lakes WA, WA (SNPA1 Site)
Annual and 5-Year Period Averages
20% Least Impaired Visibility Days

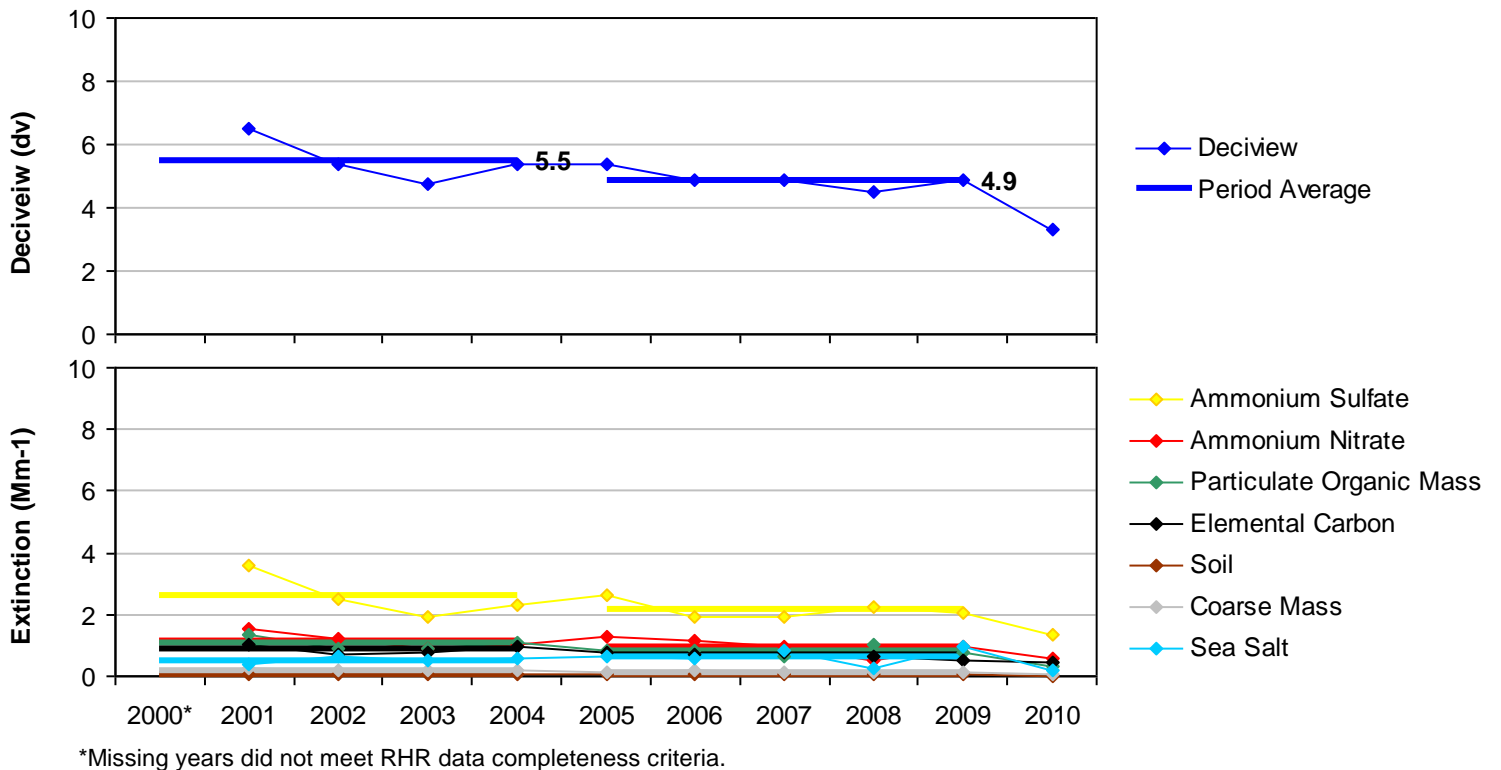
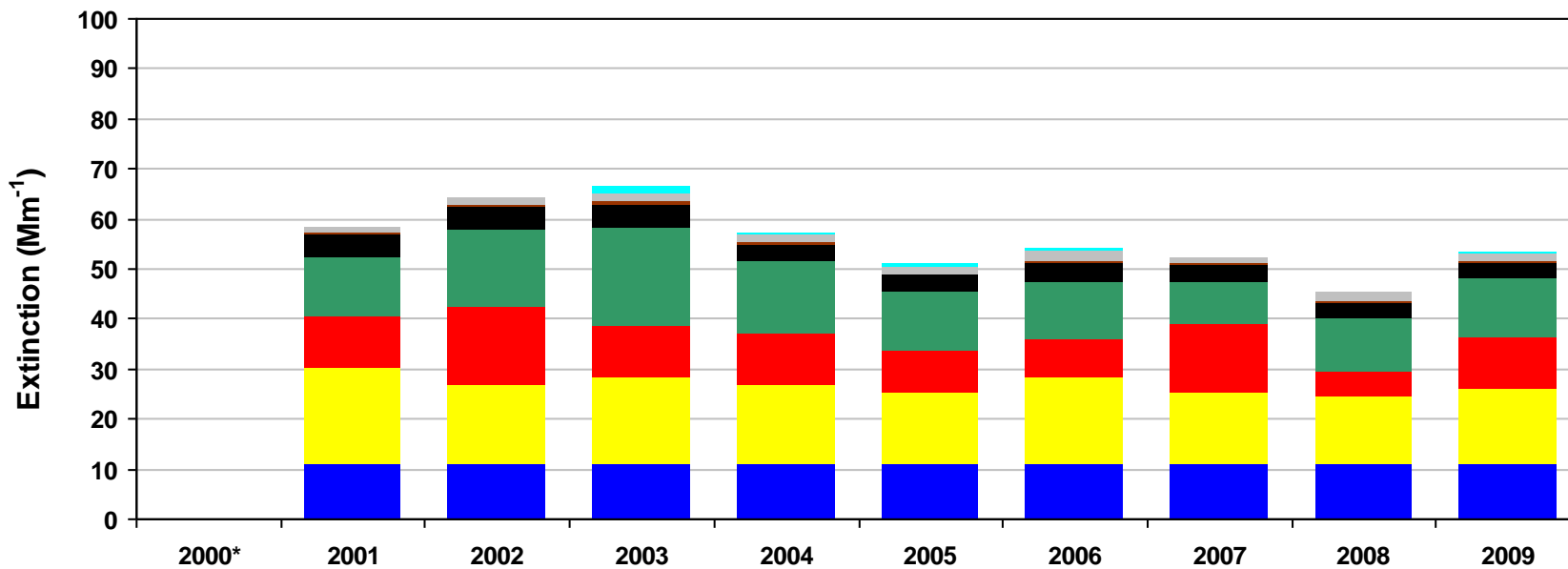
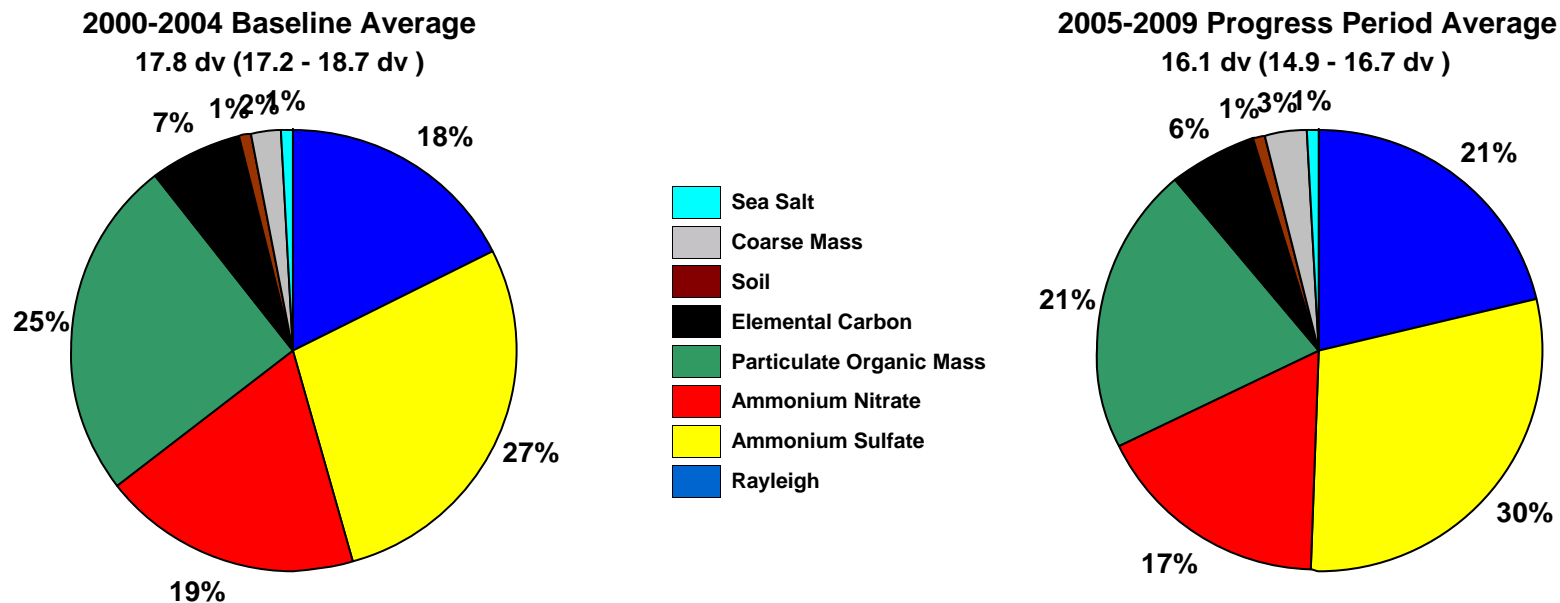
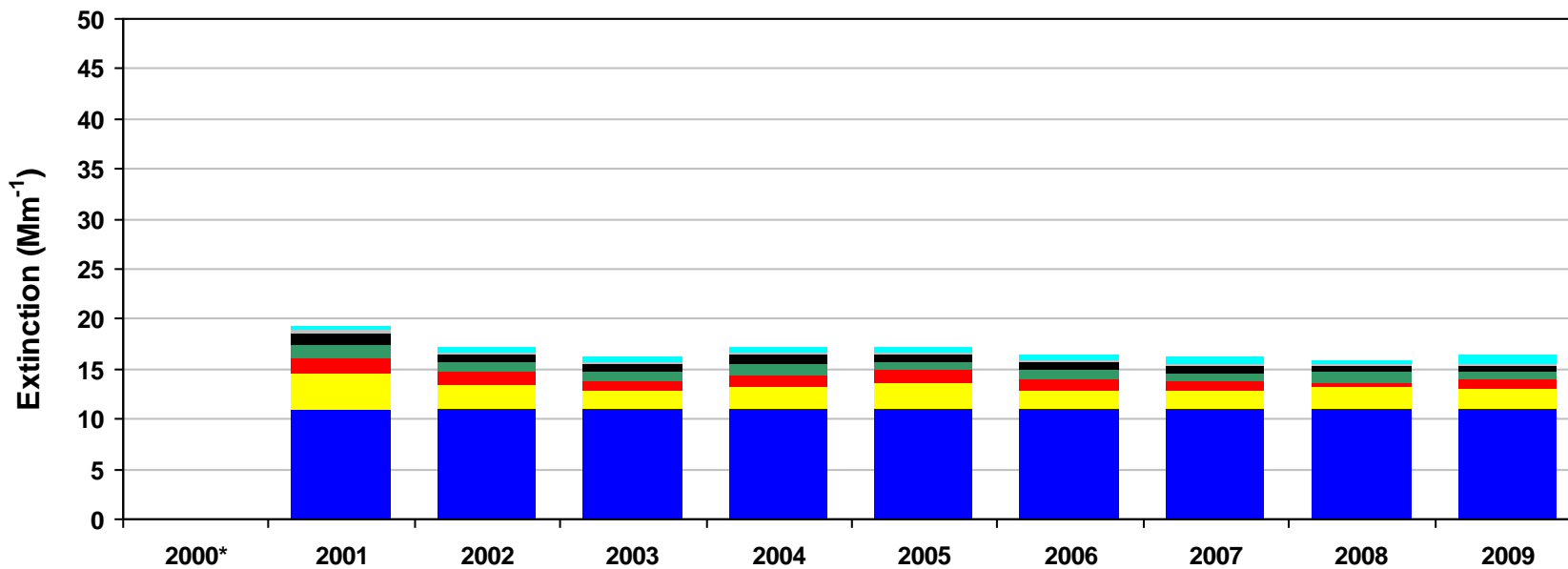
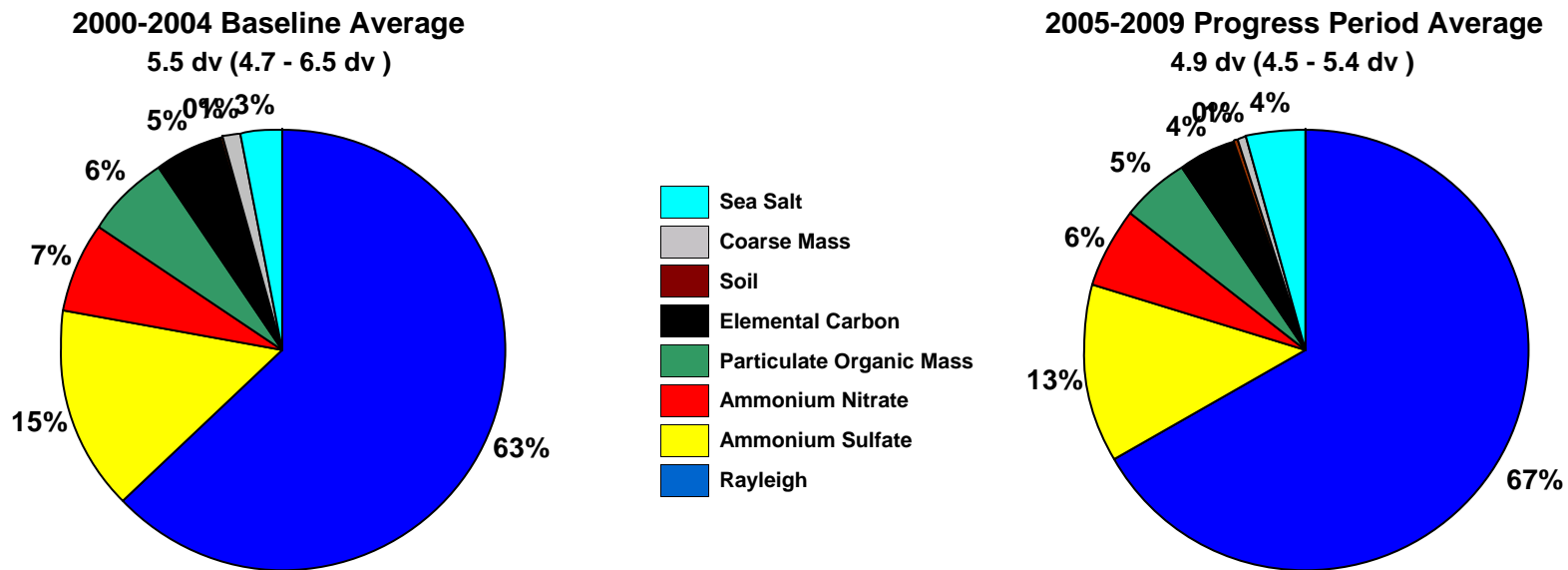


Figure N.5-3
Alpine Lakes WA, WA (SNPA1 Site)
20% Most Impaired Visibility Days



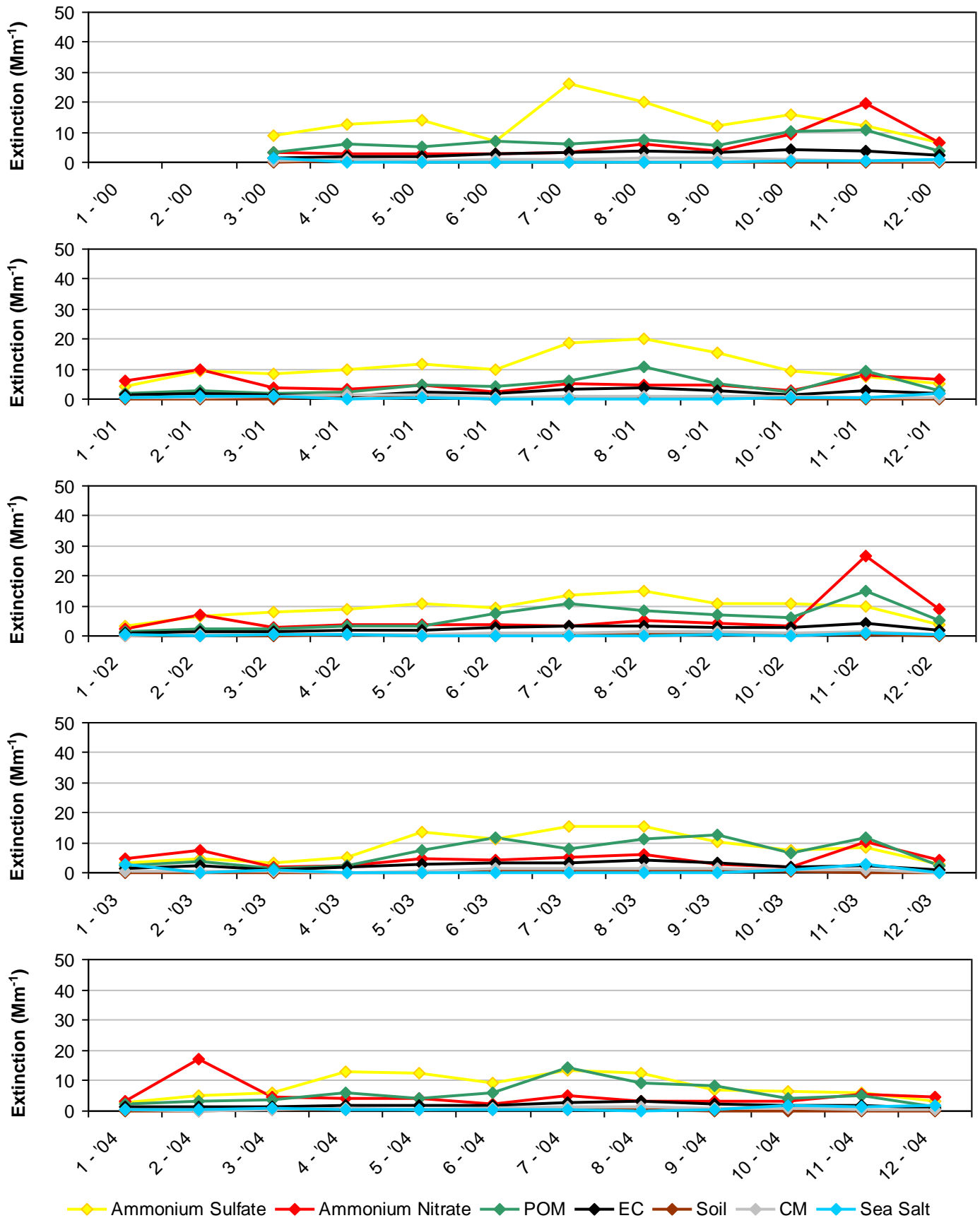
*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.5-4
Alpine Lakes WA, WA (SNPA1 Site)
20% Least Impaired Visibility Days



*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.5-5
Alpine Lakes WA, WA (SNPA1 Site)
2000-2004 Monthly Average Aerosol Extinction, All Monitored Days



*Note that monthly averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.5-6
Alpine Lakes WA, WA (SNPA1 Site)
2005-2009 Monthly Average Aerosol Extinction, All Monitored Days

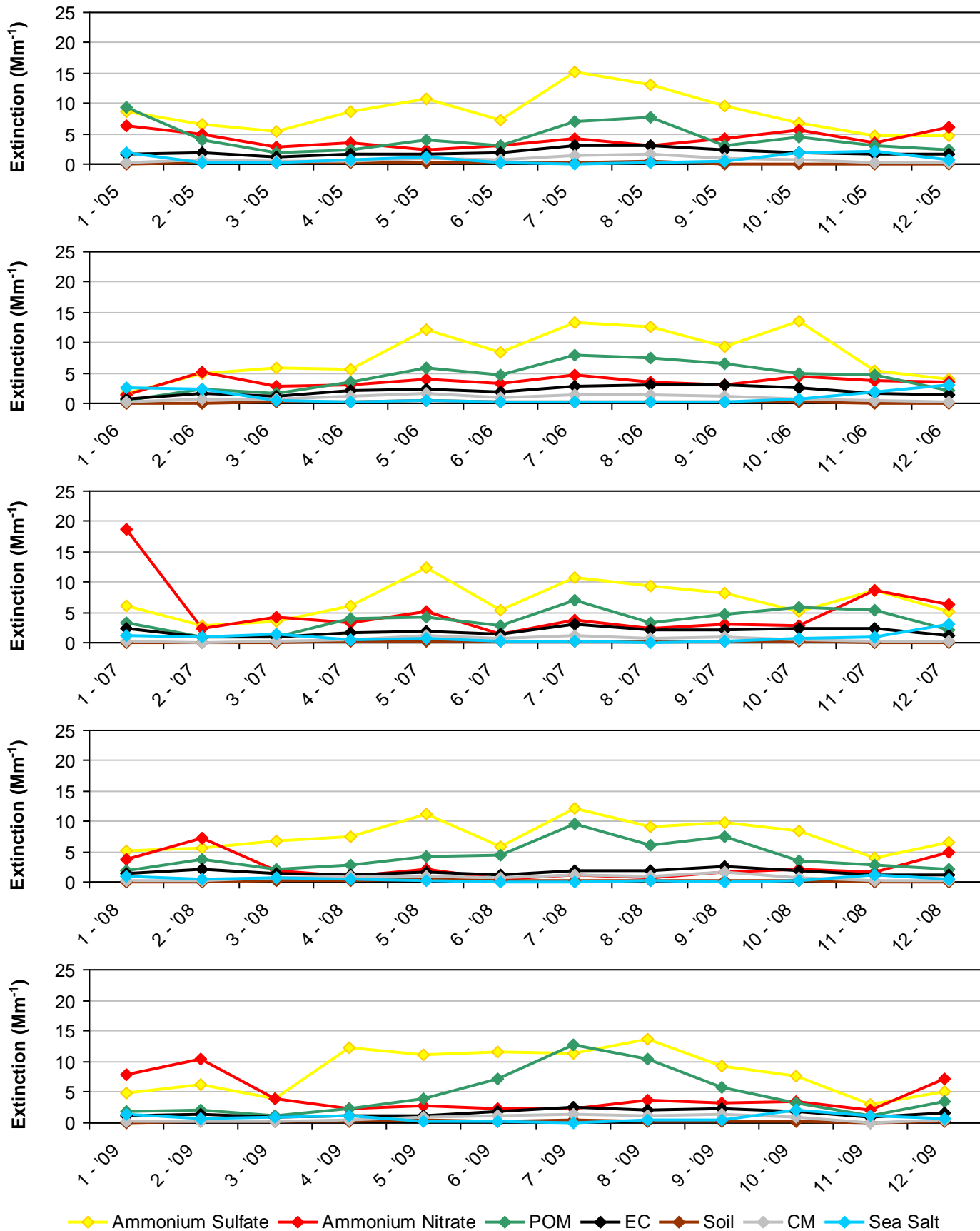
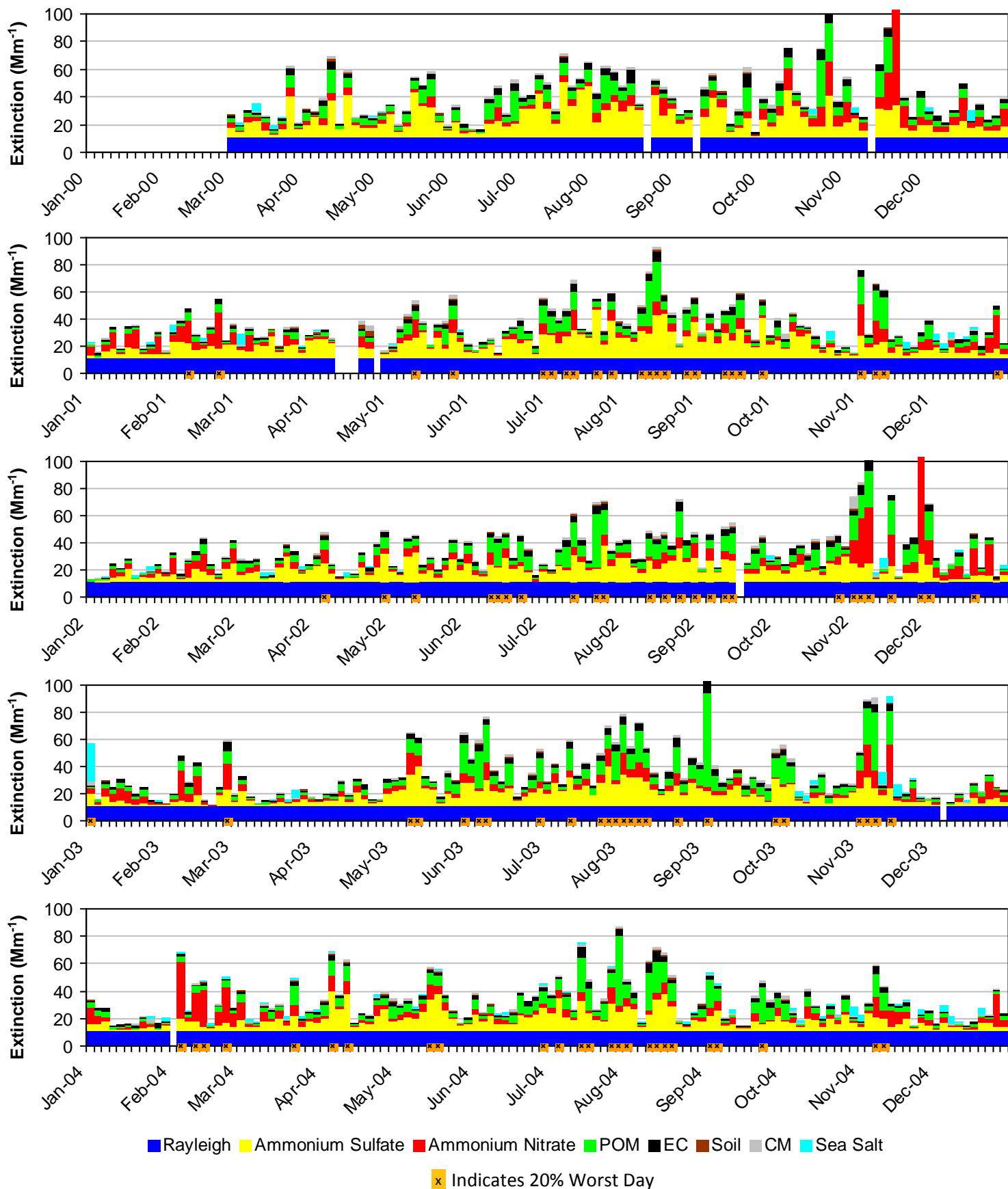
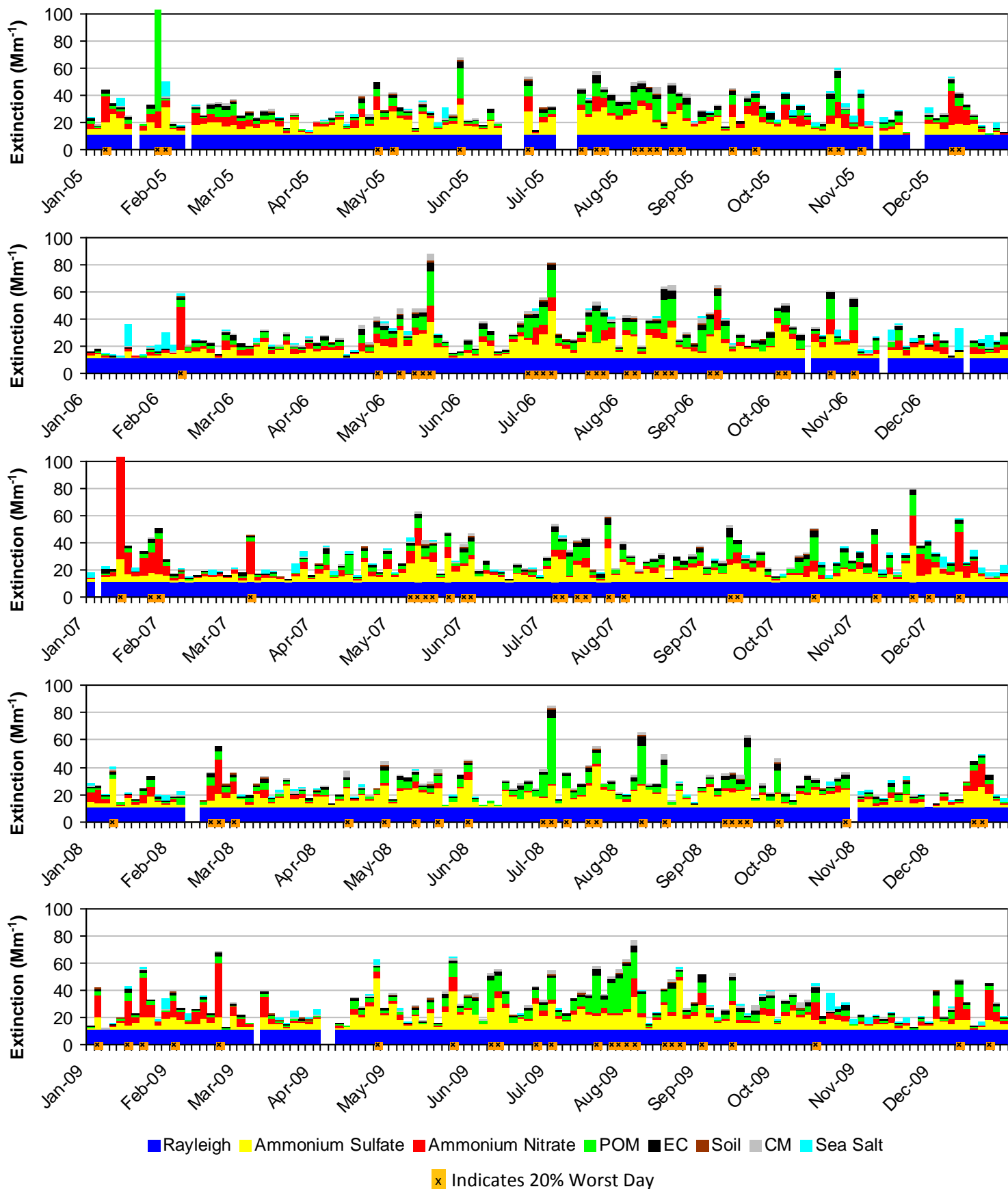


Figure N.5-7
Alpine Lakes WA, WA (SNPA1 Site)
2000-2004 Progress Period Extinction, All Sampled Days



*Note that daily averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.5-8
Alpine Lakes WA, WA (SNPA1 Site)
2005-2009 Progress Period Extinction, All Sampled Days



N.6. GOAT ROCKS WA AND MOUNT ADAMS WA (WHPA1)

The following tables and figures are presented in this section for the Goat Rocks WA and Mount Adams WA represented by the WHPA1 IMPROVE Monitor:

- **Table N.6-1: Annual Averages, 5-Year Period Averages, and Trends:** Table of averages and other metrics for the 20% least impaired days, the 20% most impaired days, and all sampled days is presented.
- **Figure N.6-1: Annual and 5-Year Period Averages for the 20% Most Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.6-2: Annual and 5-Year Period Averages for the 20% Least Impaired Visibility Days:** Line graphs depicting annual and period averages by component are presented.
- **Figure N.6-3: 20% Most Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component for the 20% most impaired days are presented.
- **Figure N.6-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure N.6-5: 2000-2004 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the baseline period are presented.
- **Figure N.6-6: 2005-2009 Monthly Average Aerosol Extinction, All Monitored Days:** Line graphs depicting monthly averages by year and component for the progress period are presented.
- **Figure N.6-7: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the baseline period are presented.
- **Figure N.6-8: 2000-2004 Progress Period Extinction, All Sampled Days:** Stacked bar charts depicting daily averages by year and component for the progress period are presented.

**Table N.6-1
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
Annual Averages, 5-Year Period Averages and Trends**

Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P-B)	Percent Change
Deciview (dv)																	
Best 20% Days	---	2.2	1.9	1.1	1.5	1.9	1.8	1.8	1.5	1.7	0.8	0.0	0.2	1.7	1.8	0.1	6%
Worst 20% Days	---	12.3	11.9	14.1	12.6	11.6	14.0	10.9	13.0	13.8	10.8	0.1	0.5	12.8	12.7	-0.1	-1%
All Days	---	6.8	6.3	6.6	6.5	6.4	6.9	5.6	6.4	7.2	5.0	0.0	0.5	6.5	6.5	0.0	0%
Total Extinction (Mm-1)																	
Best 20% Days	---	12.5	12.1	11.2	11.6	12.2	12.0	12.0	11.6	11.9	10.9	0.0	0.2	11.8	11.9	0.1	1%
Worst 20% Days	---	34.8	33.6	43.8	36.1	32.7	42.5	30.2	39.9	44.4	30.9	0.7	0.3	37.1	37.9	0.8	2%
All Days	---	21.1	20.1	22.2	20.9	20.1	22.3	18.6	21.3	23.7	18.0	0.2	0.2	21.1	21.2	0.1	1%
Ammonium Sulfate Extinction (Mm-1)																	
Best 20% Days	---	1.4	1.0	0.5	0.6	1.4	0.9	1.1	0.9	1.0	0.5	0.0	0.5	0.9	1.1	0.2	22%
Worst 20% Days	---	11.7	8.8	9.7	9.5	8.4	9.5	8.1	10.1	8.4	7.7	-0.2	0.2	9.9	8.9	-1.0	-10%
All Days	---	5.7	4.3	4.3	4.5	4.8	4.7	4.0	4.9	4.7	3.4	0.0	0.4	4.7	4.6	-0.1	-2%
Ammonium Nitrate Extinction (Mm-1)																	
Best 20% Days	---	0.4	0.3	0.1	0.2	0.3	0.1	0.2	0.1	0.2	0.1	0.0	0.1	0.2	0.2	0.0	0%
Worst 20% Days	---	2.2	3.3	4.4	2.4	4.1	2.3	2.2	3.1	2.5	3.0	0.0	0.5	3.1	2.9	-0.2	-7%
All Days	---	1.2	1.4	1.6	1.3	1.5	1.2	0.9	1.1	1.2	1.1	0.0	0.2	1.4	1.2	-0.2	-14%
Particulate Organic Mass Extinction (Mm-1)																	
Best 20% Days	---	0.2	0.4	0.2	0.2	0.2	0.3	0.2	0.3	0.1	0.1	0.0	0.5	0.3	0.2	-0.1	-33%
Worst 20% Days	---	6.2	7.1	14.8	10.4	5.6	14.7	6.1	12.1	16.0	6.3	0.8	0.2	9.6	10.9	1.3	14%
All Days	---	2.1	2.5	4.3	3.3	1.9	4.0	2.0	3.5	4.4	1.8	0.2	0.2	3.0	3.2	0.2	7%
Elemental Carbon Extinction (Mm-1)																	
Best 20% Days	---	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.5	0.1	0.1	0.0	0%
Worst 20% Days	---	1.6	1.5	2.3	1.8	1.8	2.8	1.6	1.9	2.4	1.1	0.1	0.1	1.8	2.1	0.3	17%
All Days	---	0.7	0.7	0.8	0.7	0.7	1.0	0.6	0.6	0.8	0.4	0.0	0.5	0.7	0.7	0.0	0%
Soil Extinction (Mm-1)																	
Best 20% Days	---	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0%
Worst 20% Days	---	0.9	0.4	0.4	0.5	0.4	0.7	0.4	0.6	0.5	0.6	0.0	0.5	0.6	0.5	-0.1	-17%
All Days	---	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.0	0.5	0.2	0.2	0.0	0%
Coarse Mass Extinction (Mm-1)																	
Best 20% Days	---	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.4	0.1	0.0	0.4	0.1	0.2	0.1	100%
Worst 20% Days	---	1.6	2.0	2.0	1.4	2.2	2.4	1.6	2.0	4.5	1.9	0.1	0.1	1.7	2.5	0.8	47%
All Days	---	0.8	0.7	0.7	0.7	0.9	0.9	0.7	0.8	2.0	0.8	0.0	0.2	0.7	1.0	0.3	43%
Sea Salt Extinction (Mm-1)																	
Best 20% Days	---	0.2	0.1	0.1	0.2	0.1	0.3	0.2	0.1	0.1	0.0	0.0	0.5	0.1	0.2	0.1	100%
Worst 20% Days	---	0.7	0.5	0.3	0.1	0.3	0.0	0.1	0.2	0.1	0.3	-0.1	0.0	0.4	0.1	-0.3	-75%
All Days	---	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.0	0.3	0.3	0.2	-0.1	-33%

*Values highlighted in blue (red) indicate statistically significant decreasing (increasing) annual trend. Significance is measured at the 85% confidence level (p-value ≤0.15).

**Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

---" Indicates a missing year that did not meet RHR data completeness criteria.

Figure N.6-1
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
Annual and 5-Year Period Averages
20% Most Impaired Visibility Days

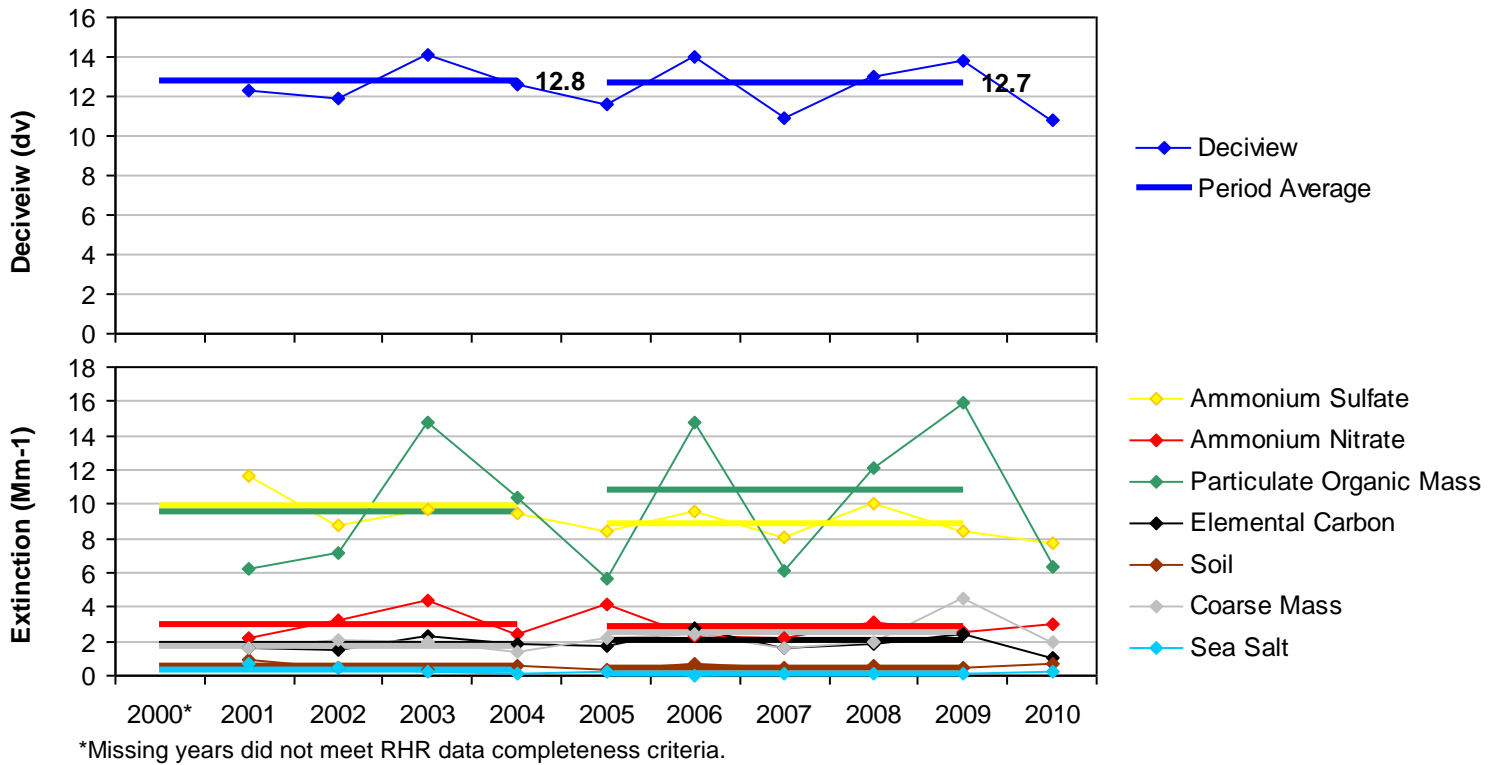


Figure N.7-2
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
Annual and 5-Year Period Averages
20% Least Impaired Visibility Days

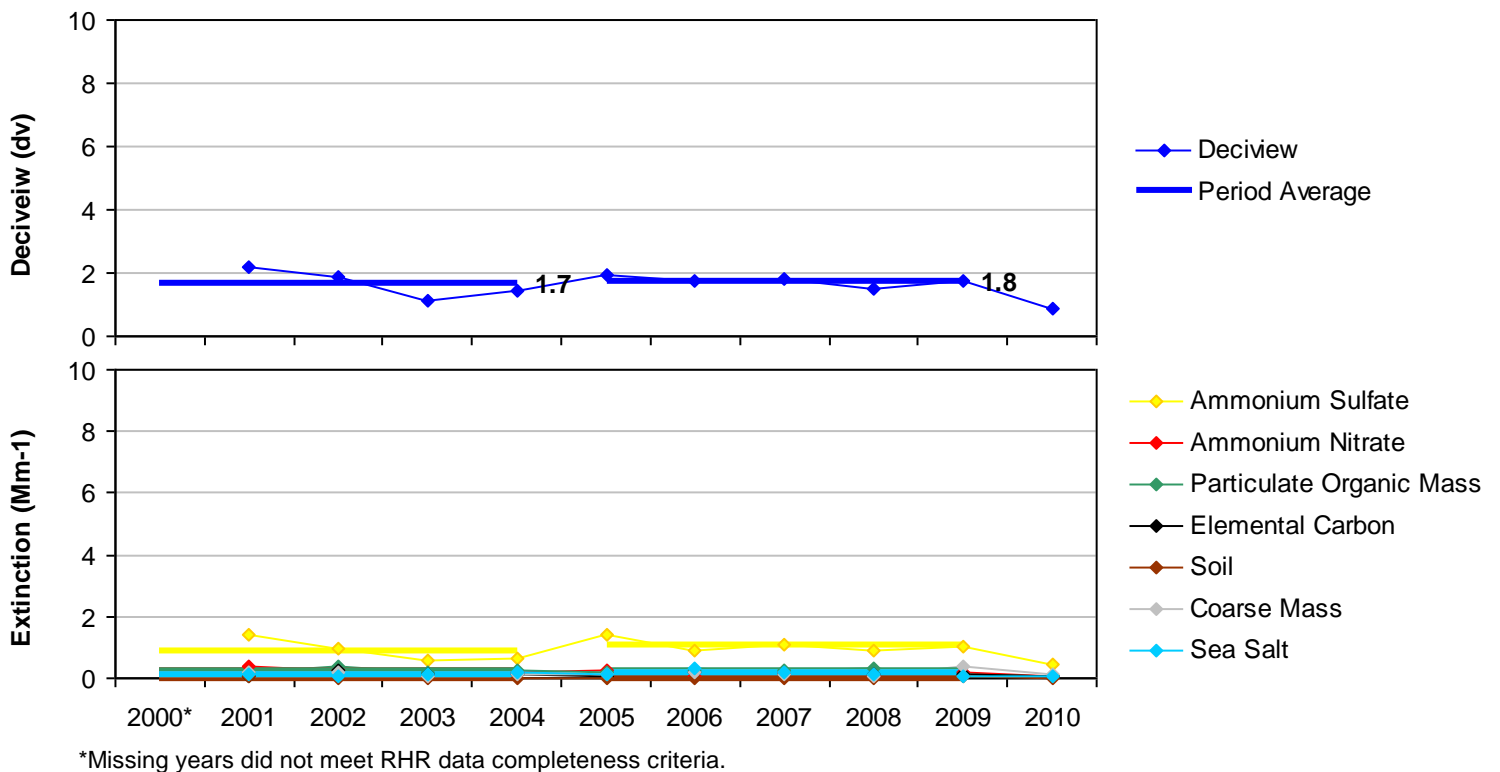
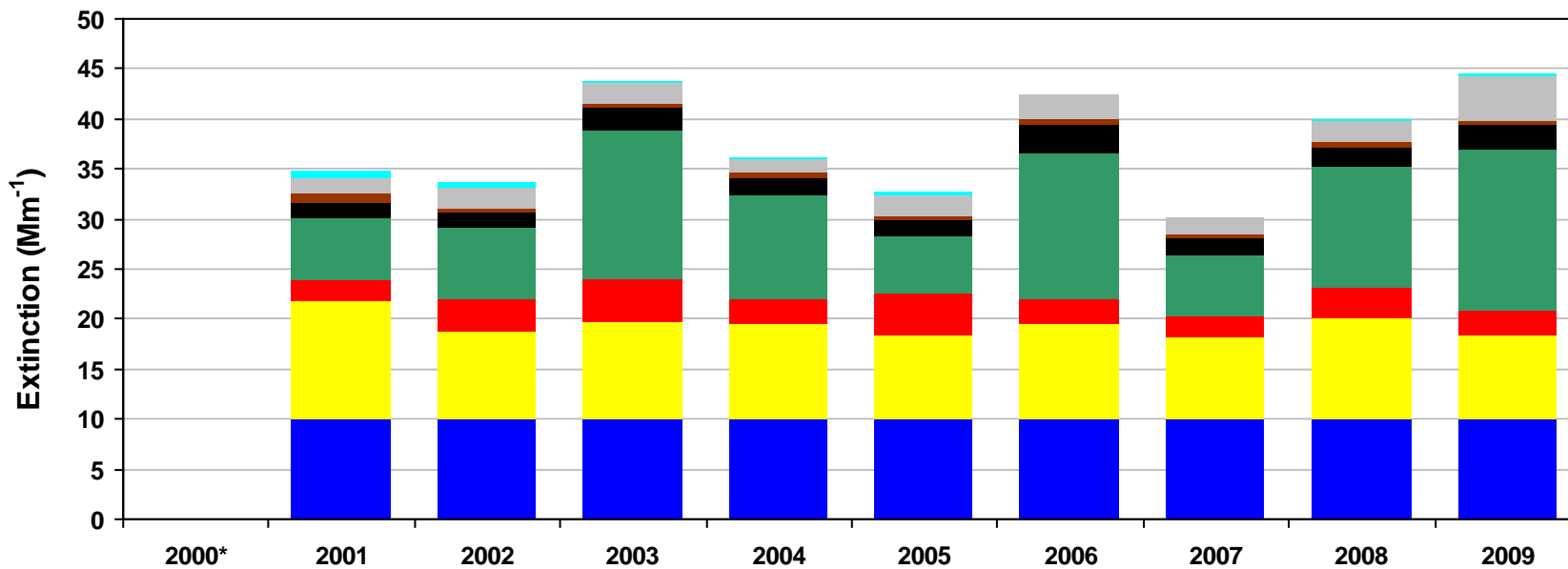
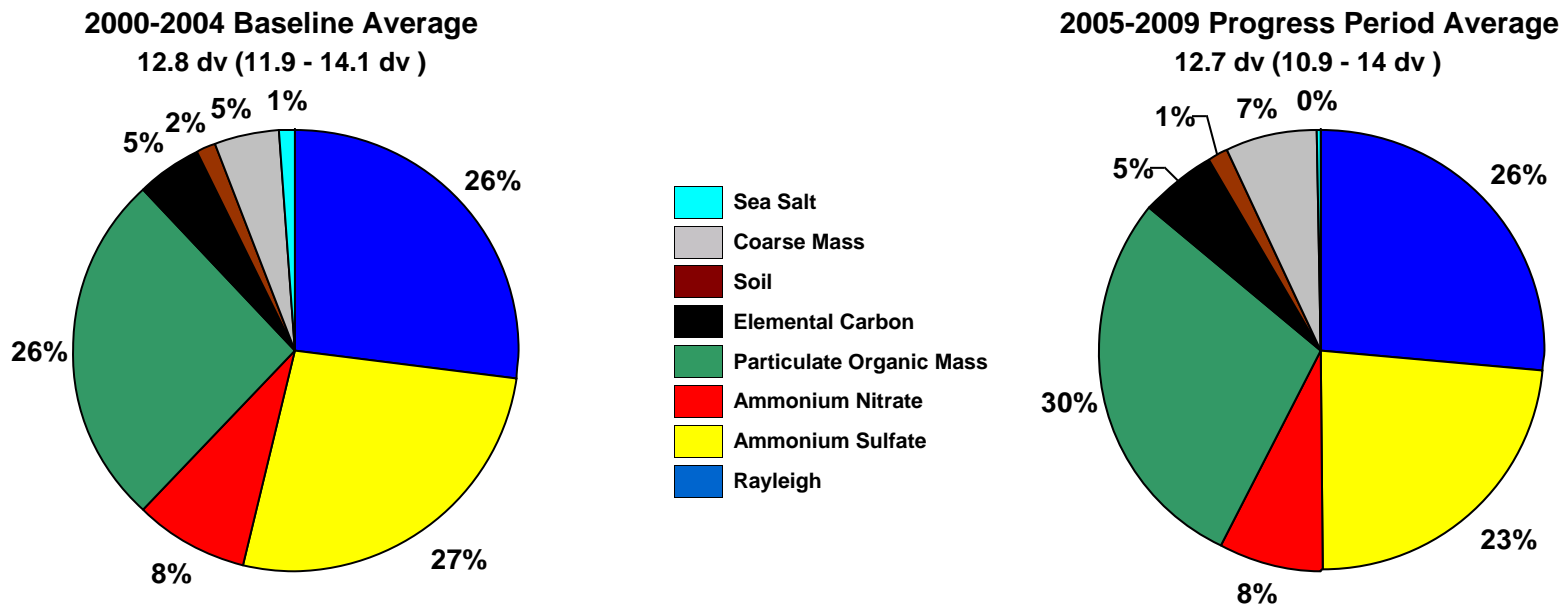


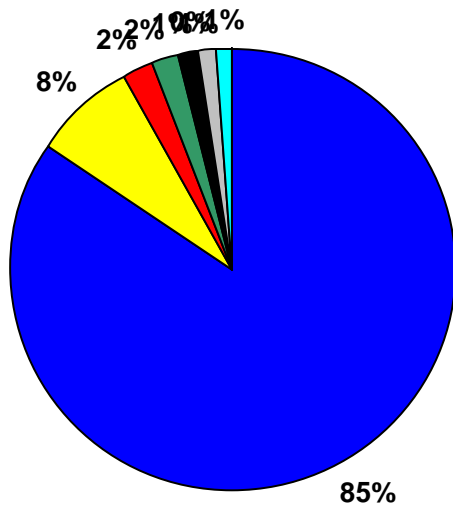
Figure N.6-3
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
20% Most Impaired Visibility Days



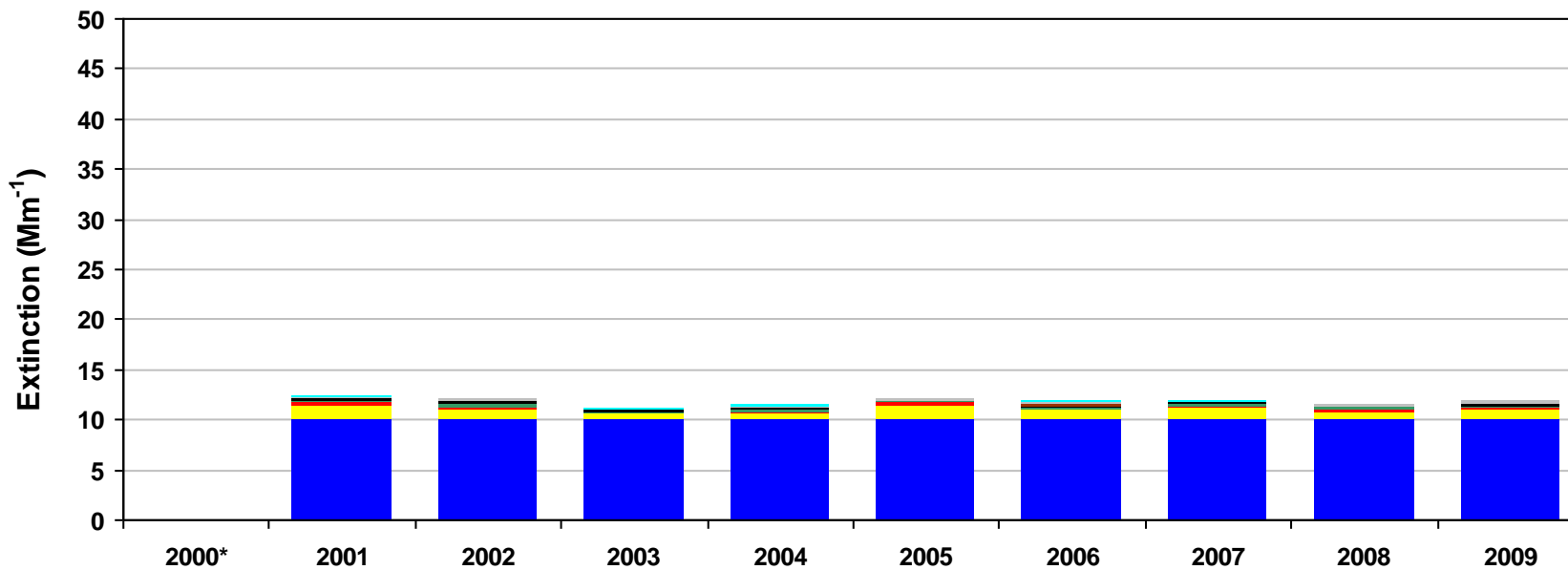
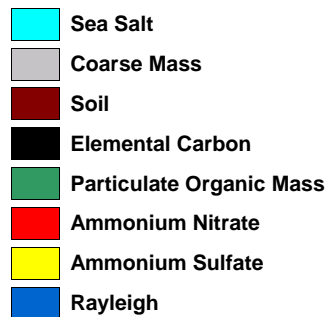
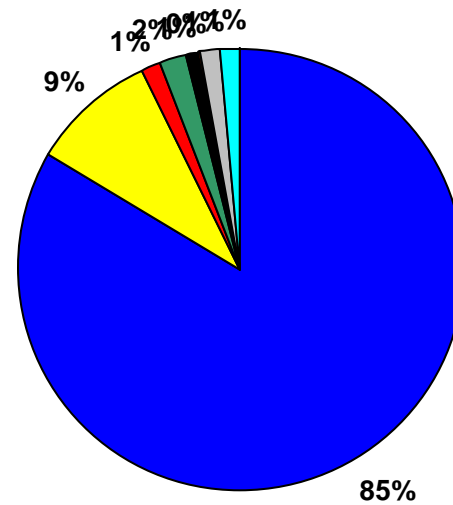
*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.6-4
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
20% Least Impaired Visibility Days

2000-2004 Baseline Average
 1.7 dv (1.1 - 2.2 dv)

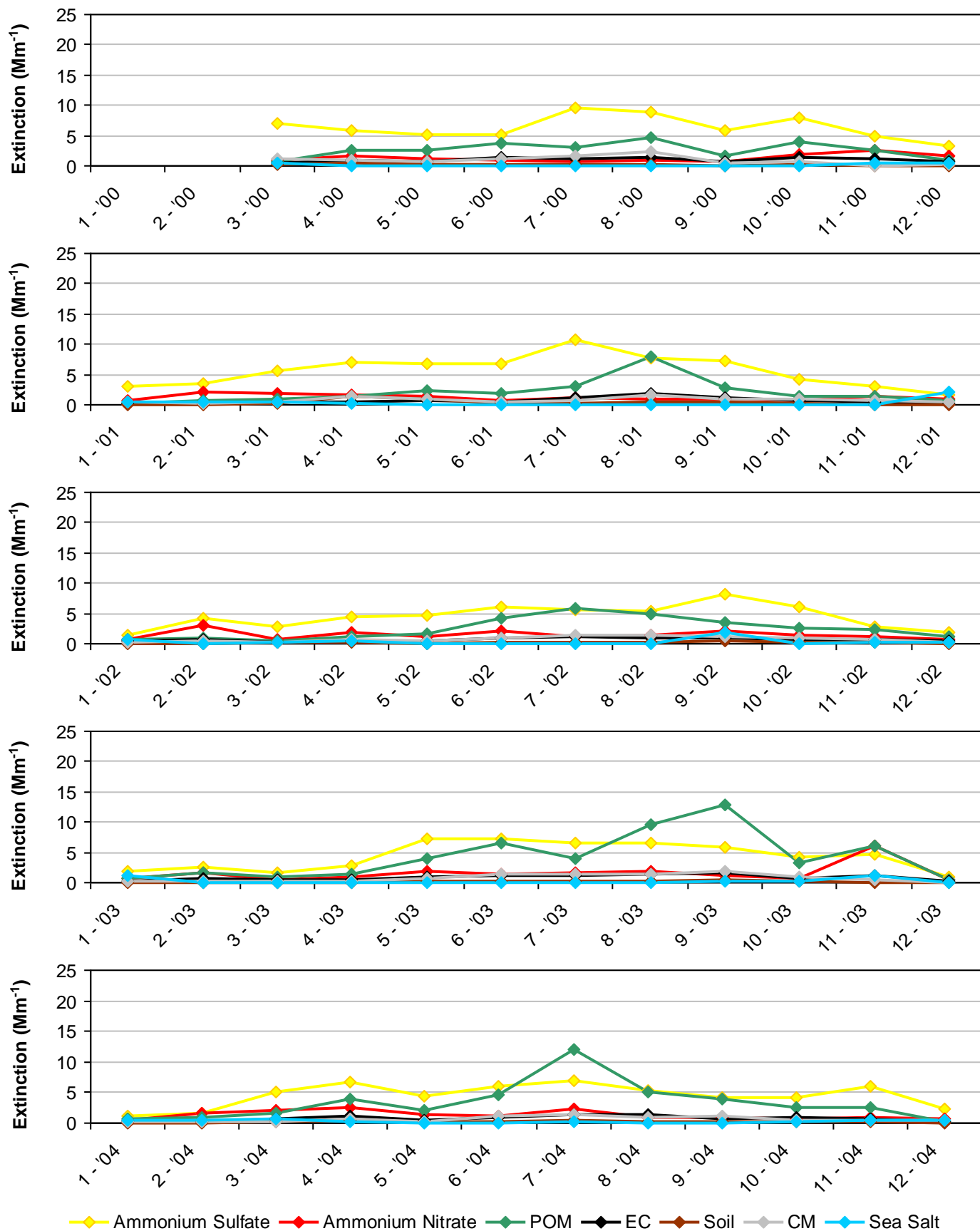


2005-2009 Progress Period Average
 1.8 dv (1.5 - 1.9 dv)



*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

Figure N.6-5
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
2000-2004 Monthly Average Aerosol Extinction, All Monitored Days



*Note that monthly averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.6-6
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
2005-2009 Monthly Average Aerosol Extinction, All Monitored Days

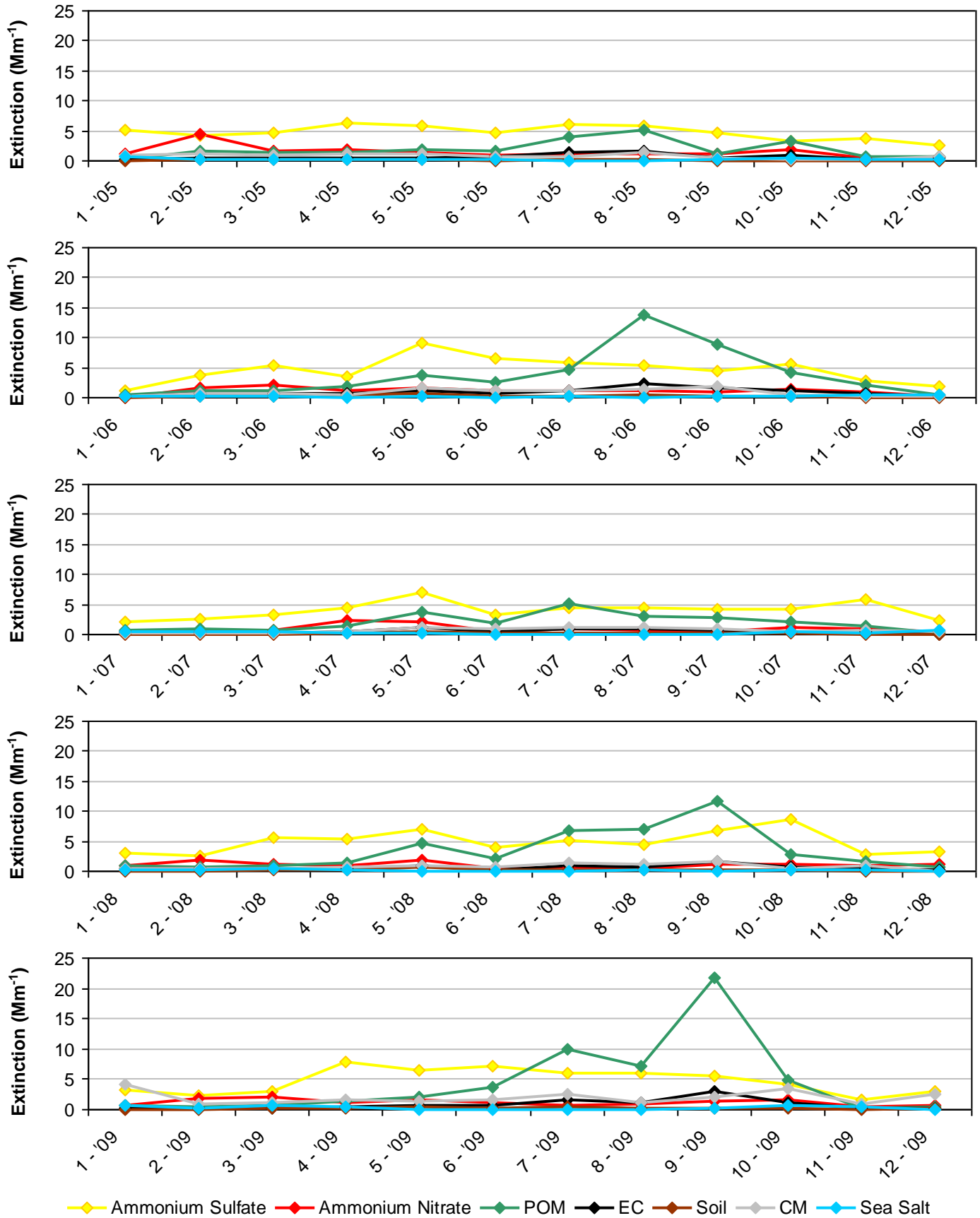
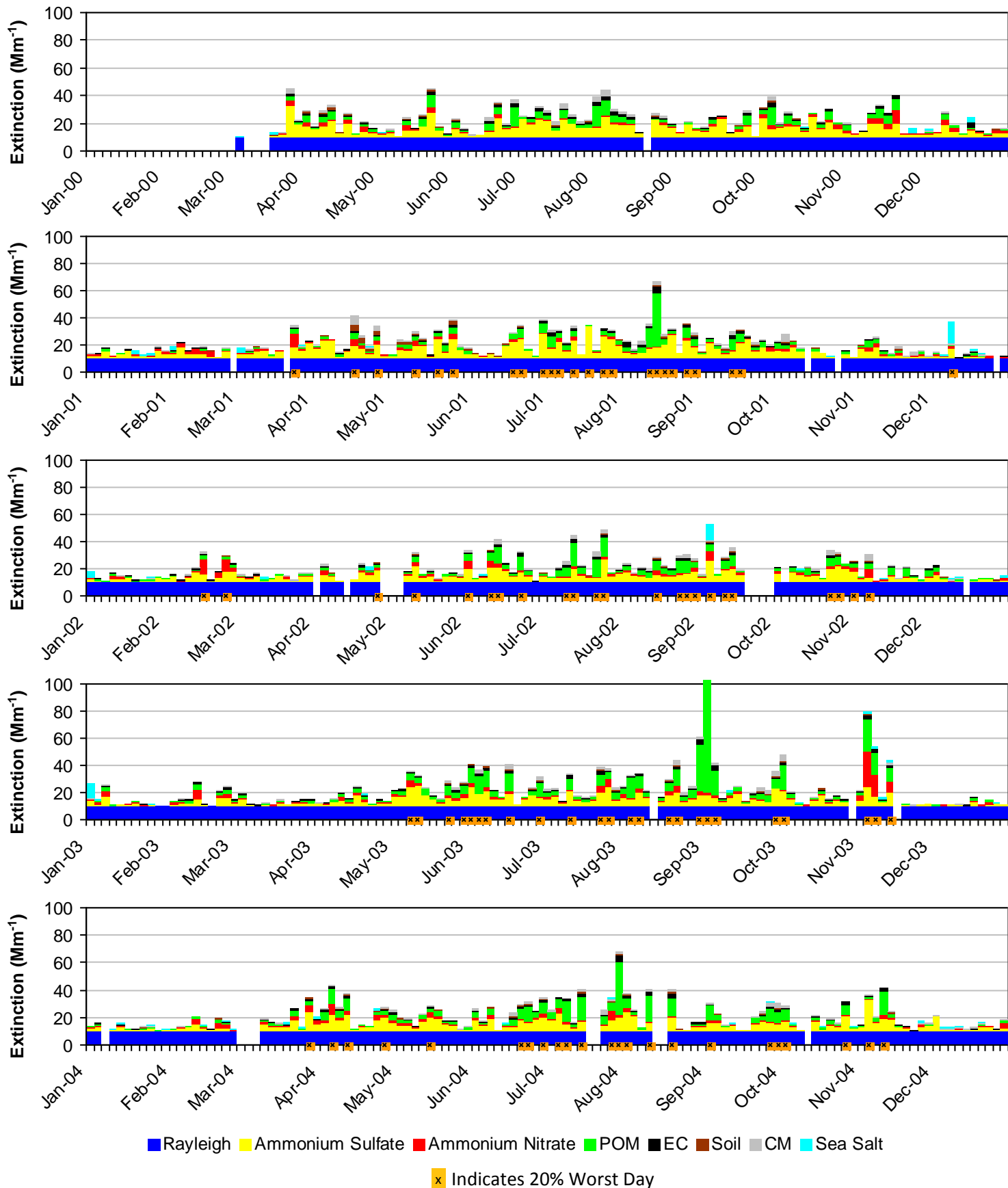


Figure N.6-7
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
2000-2004 Progress Period Extinction, All Sampled Days



*Note that daily averages for the year 2000 are shown here, but this year did not meet RHR data completeness criteria.

Figure N.6-8
Goat Rocks WA and Mount Adams WA, WA (WHPA1 Site)
2005-2009 Progress Period Extinction, All Sampled Days

