

## APPENDIX O:

### Wyoming Class I Area Monitoring Data Summary Tables and Charts

Includes the following subsections:

Subsection	IMPROVE Monitor	Class I Area(s) Represented
O.1	BRID1	Bridger WA and Fitzpatrick WA
O.2	NOAB1	North Absaroka WA and Washakie WA
O.3	YELL2	Yellowstone NP, Grand Teton NP, Red Rock Lakes WA, and Teton WA

## O.1. BRIDGER WA AND FITZPATRICK WA (BRID1)

The following tables and figures are presented in this section for the Bridger WA and Fitzpatrick WA represented by the BRID1 IMPROVE Monitor:

- **Table O.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 O.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 O.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 O.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 O.1-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure O.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 O.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 O.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 O.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 O.1-1**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**Annual Averages, 5-Year Period Averages and Trends**

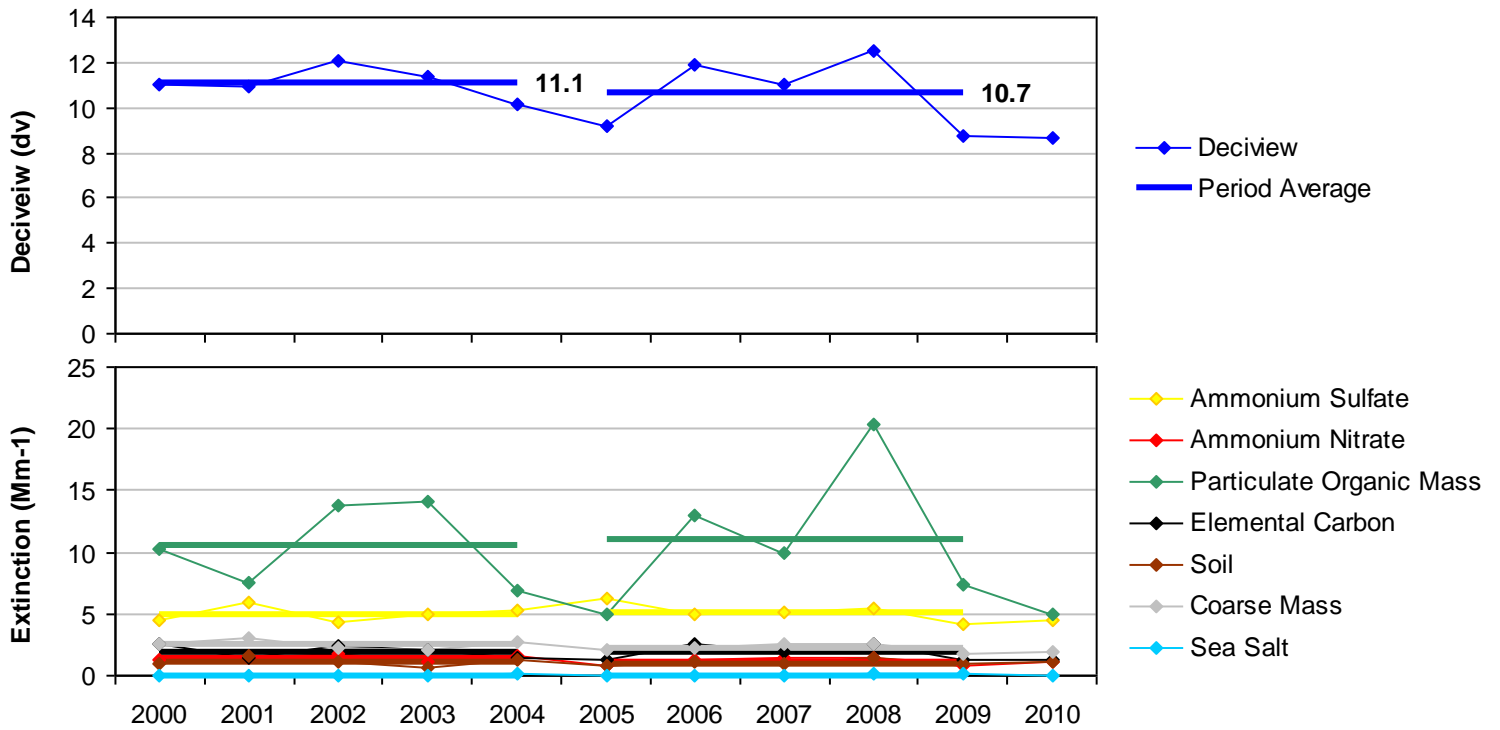
Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P - B)	Percent Change
<b>Deciview (dv)</b>																	
Best 20% Days	2.5	2.5	2.1	1.6	1.8	1.6	1.5	2.0	1.3	1.3	0.7	-0.1	0.0	2.1	1.5	-0.6	-29%
Worst 20% Days	11.0	10.9	12.1	11.4	10.2	9.1	11.9	11.0	12.5	8.8	8.6	-0.1	0.4	11.1	10.7	-0.4	-4%
All Days	6.3	6.4	6.5	6.0	5.6	5.2	6.2	6.0	6.0	4.7	4.6	-0.1	0.0	6.2	5.6	-0.6	-10%
<b>Total Extinction (Mm-1)</b>																	
Best 20% Days	12.9	12.9	12.3	11.8	12.0	11.8	11.6	12.2	11.4	11.4	10.8	-0.2	0.0	12.4	11.7	-0.7	-6%
Worst 20% Days	31.1	30.0	34.6	34.0	28.3	25.3	34.2	30.9	42.8	25.3	24.0	-0.1	0.4	31.6	31.7	0.1	0%
All Days	19.9	19.9	20.5	19.8	18.4	17.4	20.2	19.4	21.2	16.9	16.5	-0.1	0.2	19.7	19.0	-0.7	-4%
<b>Ammonium Sulfate Extinction (Mm-1)</b>																	
Best 20% Days	1.9	1.6	1.4	1.1	1.3	1.3	1.1	1.3	1.1	1.2	0.9	-0.1	0.0	1.5	1.2	-0.3	-20%
Worst 20% Days	4.5	5.9	4.3	4.9	5.3	6.3	5.0	5.1	5.4	4.1	4.5	0.0	0.4	5.0	5.2	0.2	4%
All Days	3.4	3.8	3.1	2.9	3.2	3.5	3.5	3.3	3.3	2.8	2.7	0.0	0.3	3.2	3.3	0.1	3%
<b>Ammonium Nitrate Extinction (Mm-1)</b>																	
Best 20% Days	0.4	0.5	0.5	0.3	0.4	0.2	0.3	0.4	0.4	0.3	0.2	0.0	0.3	0.4	0.3	-0.1	-25%
Worst 20% Days	1.3	1.5	1.7	1.1	1.6	0.8	1.2	1.4	1.4	0.9	1.2	0.0	0.2	1.4	1.1	-0.3	-21%
All Days	0.9	1.0	1.2	0.9	0.9	0.7	0.8	1.0	0.9	0.7	0.7	0.0	0.1	1.0	0.8	-0.2	-20%
<b>Particulate Organic Mass Extinction (Mm-1)</b>																	
Best 20% Days	1.0	0.7	0.7	0.8	0.7	0.7	0.6	0.8	0.5	0.4	0.3	-0.1	0.0	0.8	0.6	-0.2	-25%
Worst 20% Days	10.3	7.6	13.8	14.1	6.9	5.0	13.1	10.0	20.3	7.3	5.0	0.0	0.5	10.5	11.1	0.6	6%
All Days	4.0	3.2	4.4	4.7	3.1	2.4	4.3	3.6	5.6	2.6	2.1	0.0	0.4	3.9	3.7	-0.2	-5%
<b>Elemental Carbon Extinction (Mm-1)</b>																	
Best 20% Days	0.3	0.6	0.4	0.3	0.2	0.3	0.2	0.3	0.1	0.1	0.1	0.0	0.0	0.4	0.2	-0.2	-50%
Worst 20% Days	2.6	1.5	2.4	2.1	1.4	1.3	2.5	1.9	2.5	1.3	1.3	0.0	0.2	2.0	1.9	-0.1	-5%
All Days	1.1	1.0	1.2	1.0	0.7	0.7	1.0	0.8	0.8	0.5	0.6	0.0	0.0	1.0	0.8	-0.2	-20%
<b>Soil Extinction (Mm-1)</b>																	
Best 20% Days	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0%
Worst 20% Days	0.9	1.5	1.1	0.7	1.3	0.8	1.1	0.9	1.4	0.9	1.1	0.0	0.4	1.1	1.0	-0.1	-9%
All Days	0.4	0.6	0.5	0.4	0.5	0.4	0.5	0.4	0.5	0.4	0.5	0.0	0.5	0.5	0.4	-0.1	-20%
<b>Coarse Mass Extinction (Mm-1)</b>																	
Best 20% Days	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.0	0.2	0.2	0.2	0.0	0%
Worst 20% Days	2.5	3.0	2.2	2.1	2.7	2.1	2.3	2.5	2.6	1.8	1.9	-0.1	0.2	2.5	2.3	-0.2	-8%
All Days	1.1	1.3	1.1	1.0	1.1	0.9	1.1	1.2	1.1	0.8	0.9	0.0	0.1	1.1	1.0	-0.1	-9%
<b>Sea Salt Extinction (Mm-1)</b>																	
Best 20% Days	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0%
Worst 20% Days	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0%
All Days	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0%

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

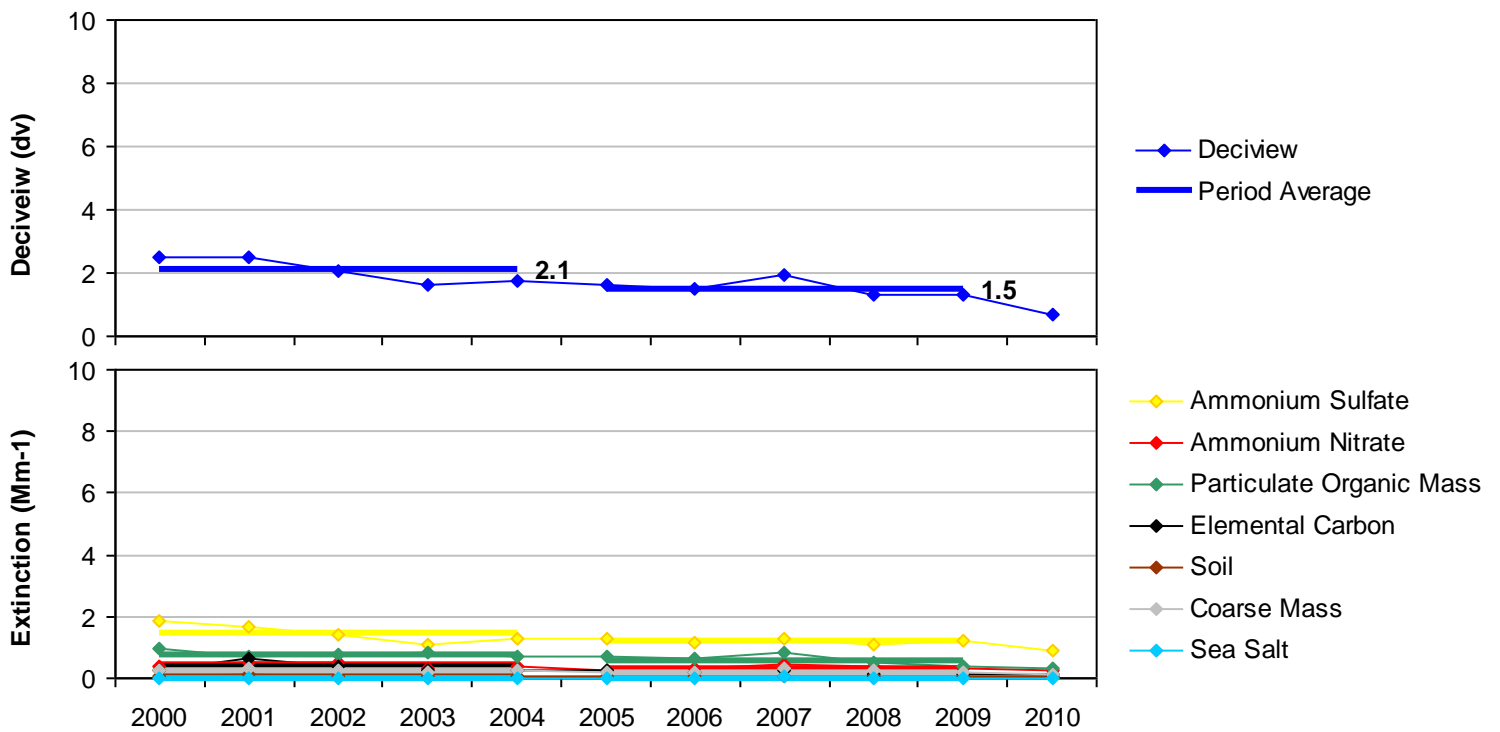
\*\*Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

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

**Figure O.1-1**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**Annual and 5-Year Period Averages**  
**20% Most Impaired Visibility Days**

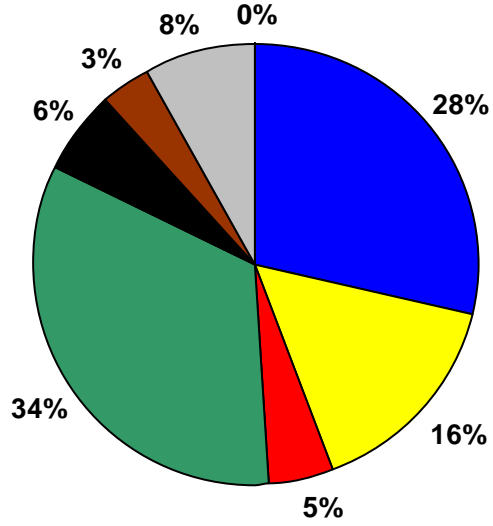


**Figure O.1-2**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**Annual and 5-Year Period Averages**  
**20% Least Impaired Visibility Days**

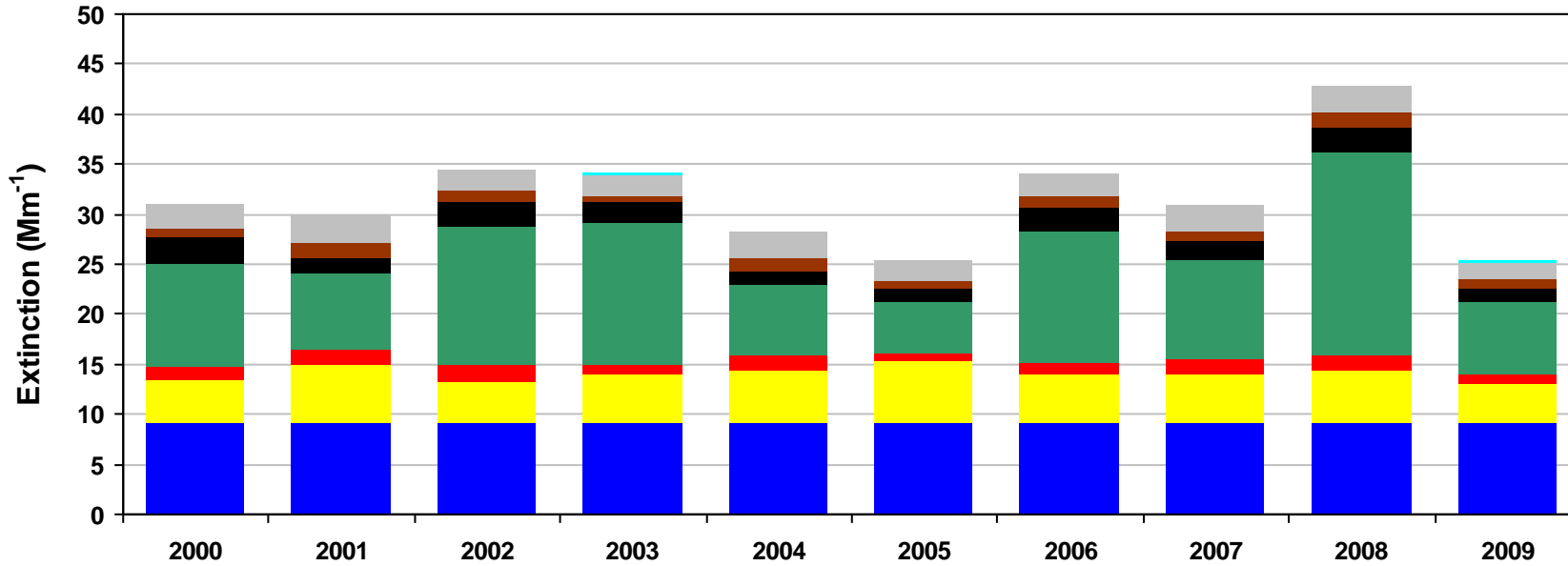
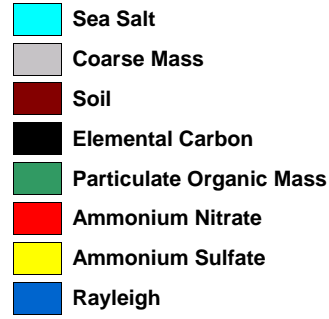
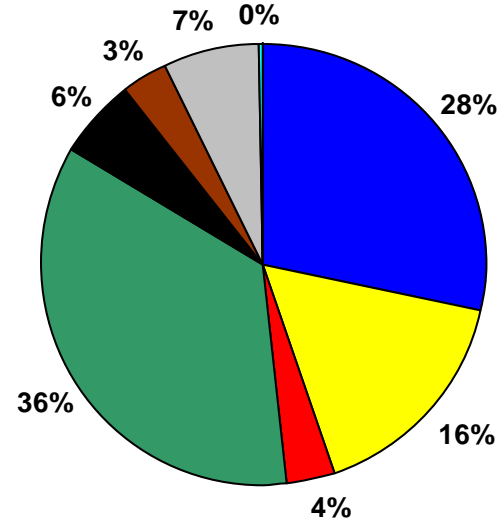


**Figure O.1-3**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**20% Most Impaired Visibility Days**

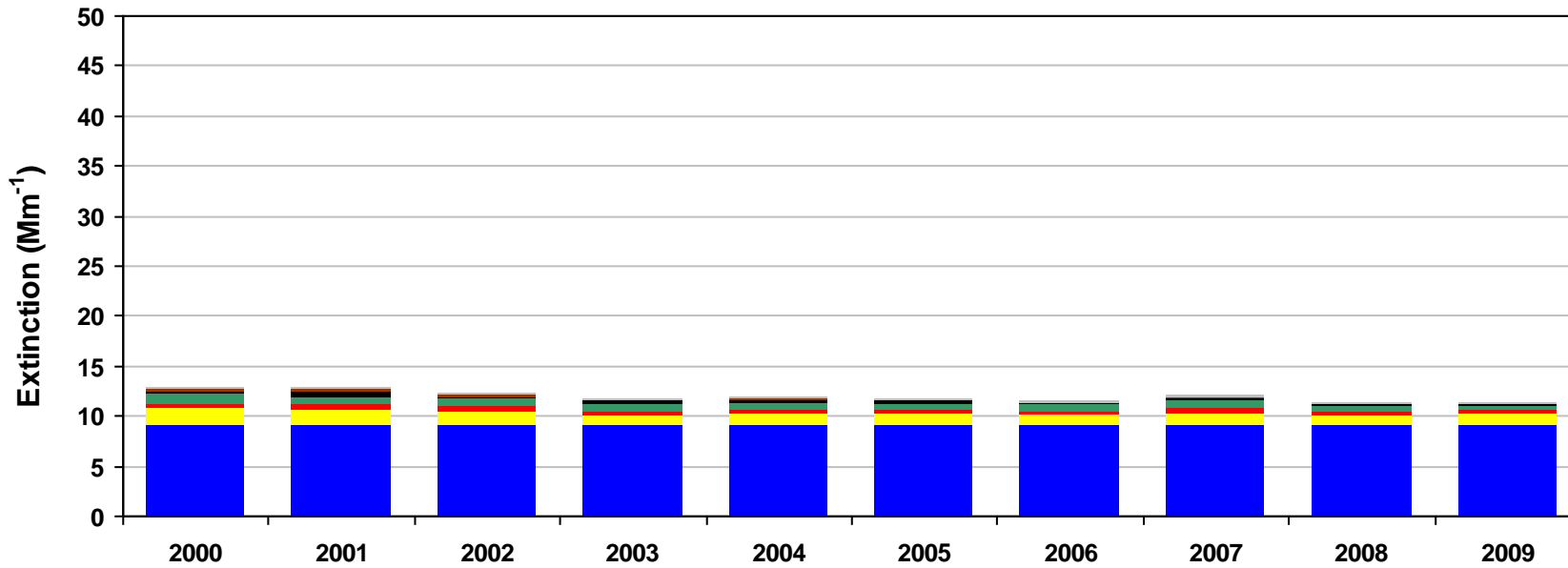
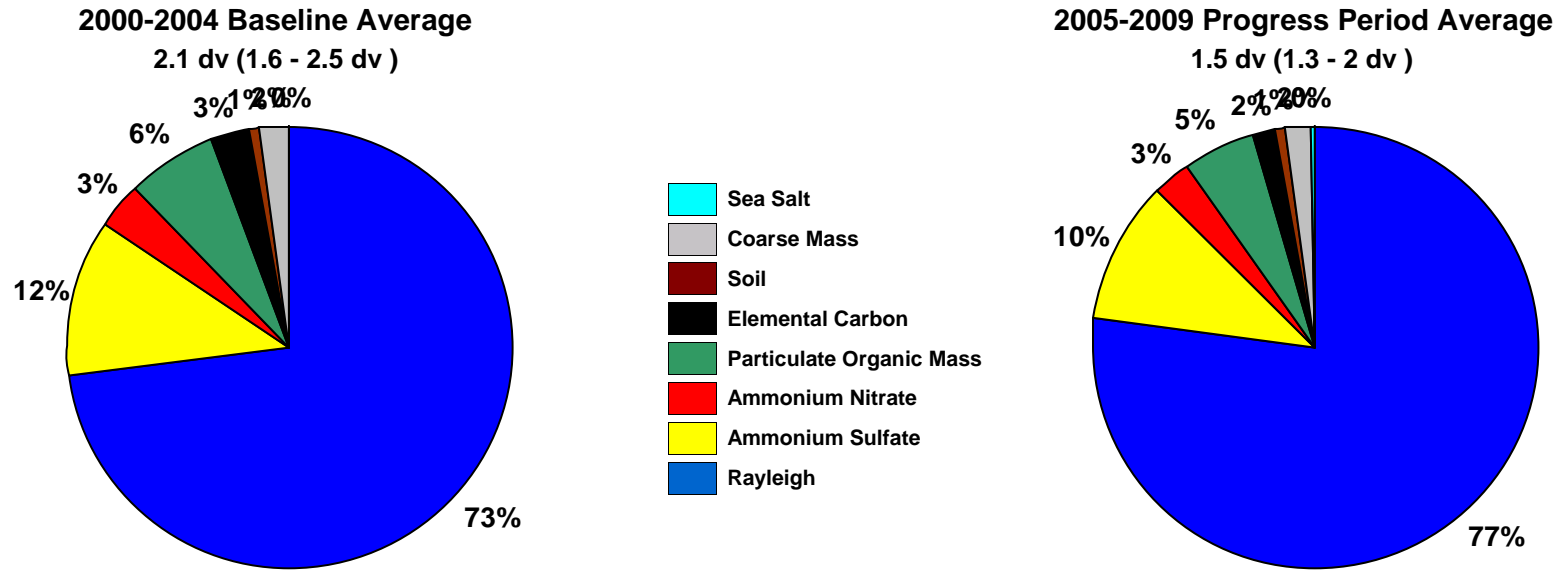
**2000-2004 Baseline Average**  
 11.1 dv (10.2 - 12.1 dv )



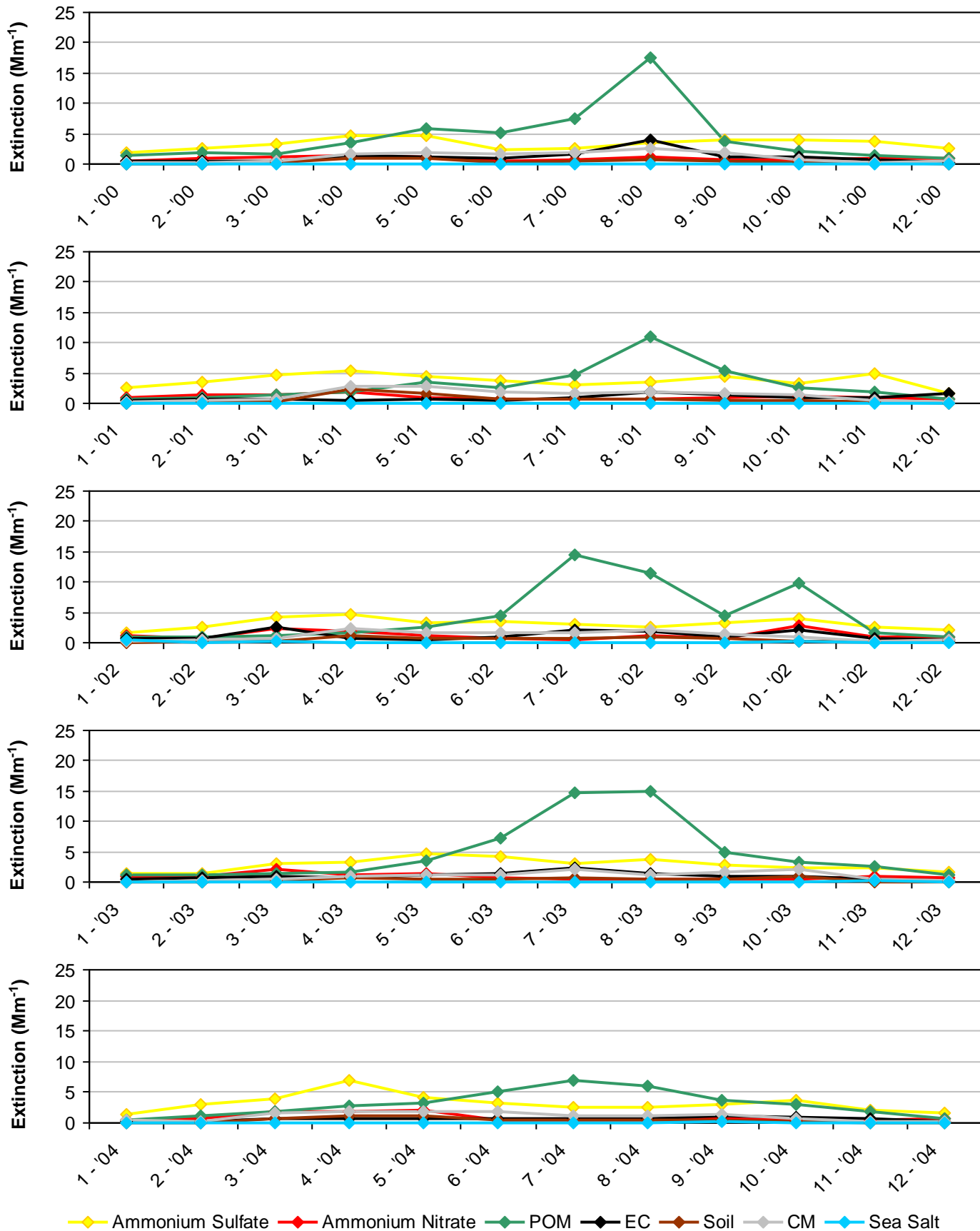
**2005-2009 Progress Period Average**  
 10.7 dv (8.8 - 12.5 dv )



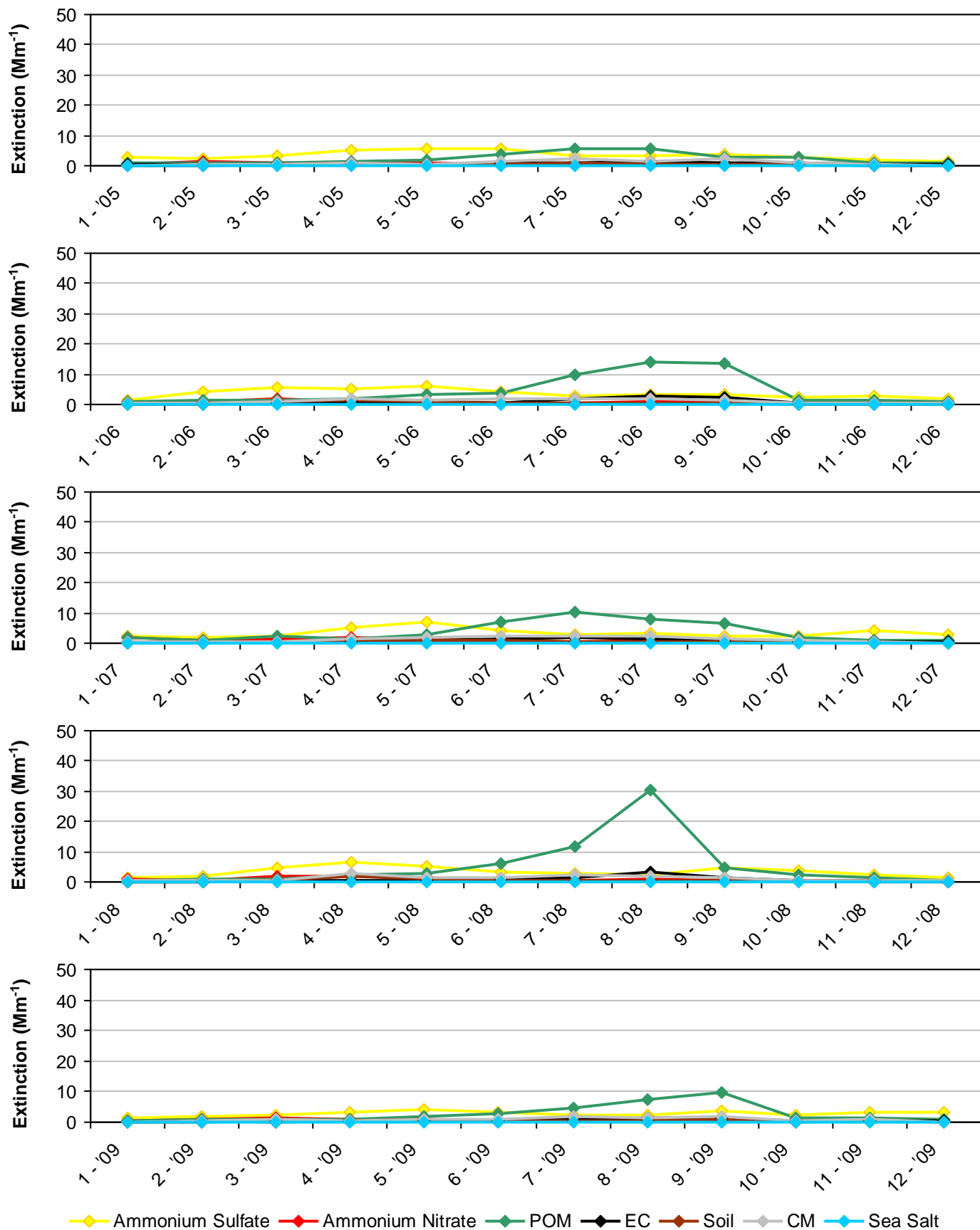
**Figure O.1-4**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**20% Least Impaired Visibility Days**



**Figure O.1-5**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**2000-2004 Monthly Average Aerosol Extinction, All Monitored Days**

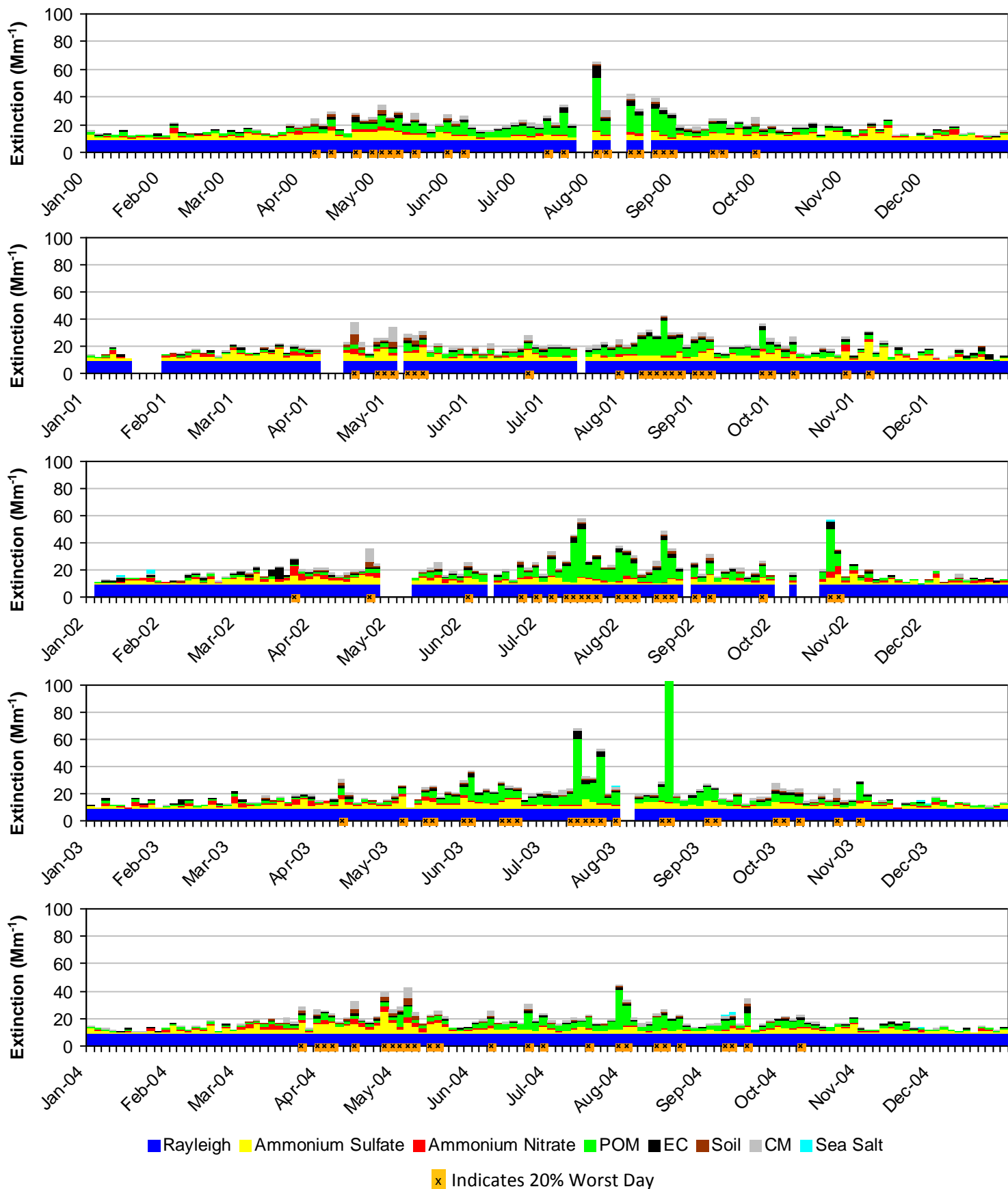


**Figure O.1-6**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**2005-2009 Monthly Average Aerosol Extinction, All Monitored Days**

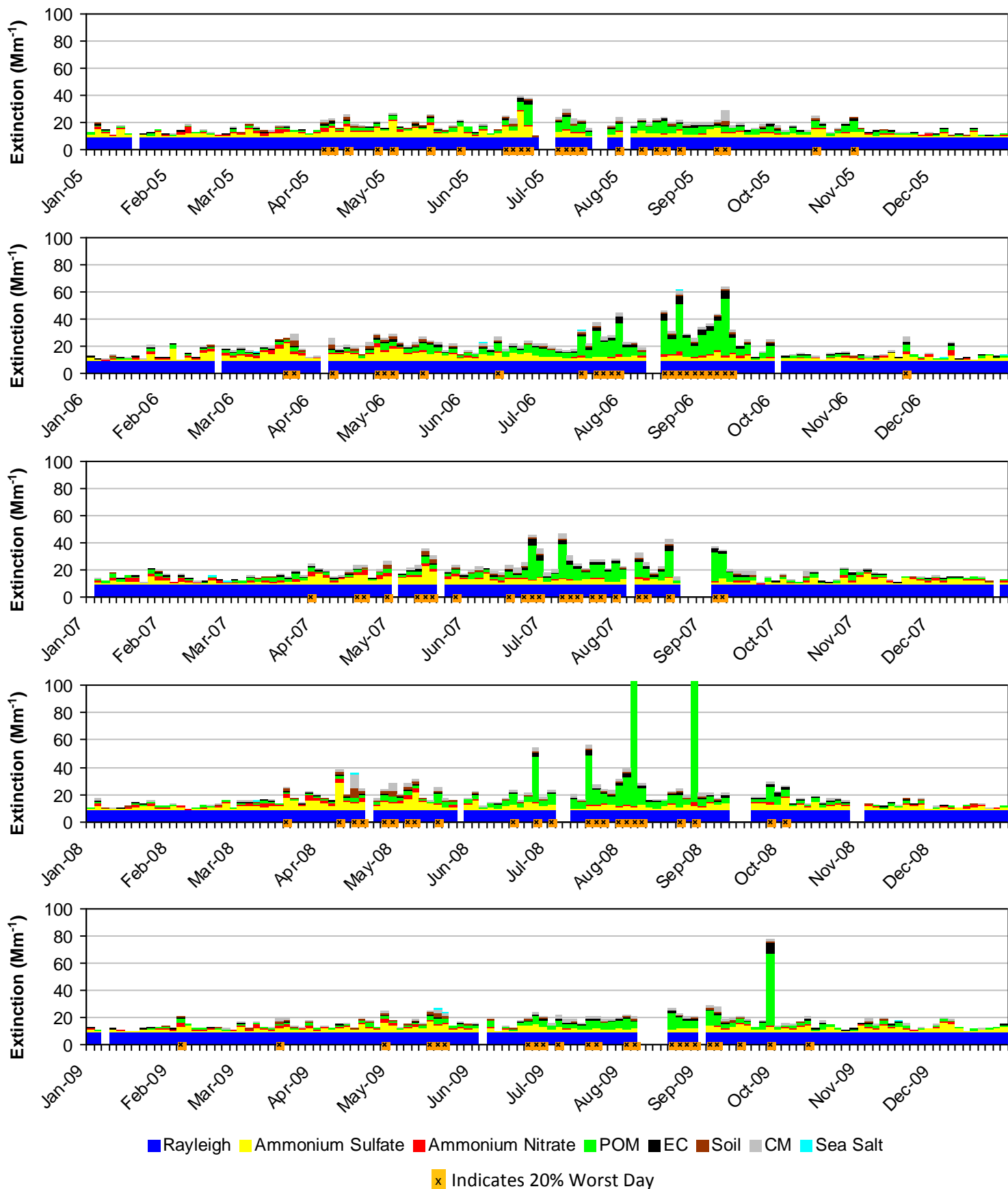




**Figure O.1-7**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**2000-2004 Progress Period Extinction, All Sampled Days**



**Figure O.1-8**  
**Bridger WA and Fitzpatrick WA, WY (BRID1 Site)**  
**2005-2009 Progress Period Extinction, All Sampled Days**



## O.2. NORTH ABSAROKA WA AND WASHAKIE WA (NOAB1)

The following tables and figures are presented in this section for the North Absaroka WA and Washakie WA represented by the NOAB1 IMPROVE Monitor:

- **Table O.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 O.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 O.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 O.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 O.2-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure O.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 O.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 O.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 O.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 O.2-1**  
**North Absaroka WA and Washakie WA, WY (NOAB1 Site)**  
**Annual Averages, 5-Year Period Averages and Trends**

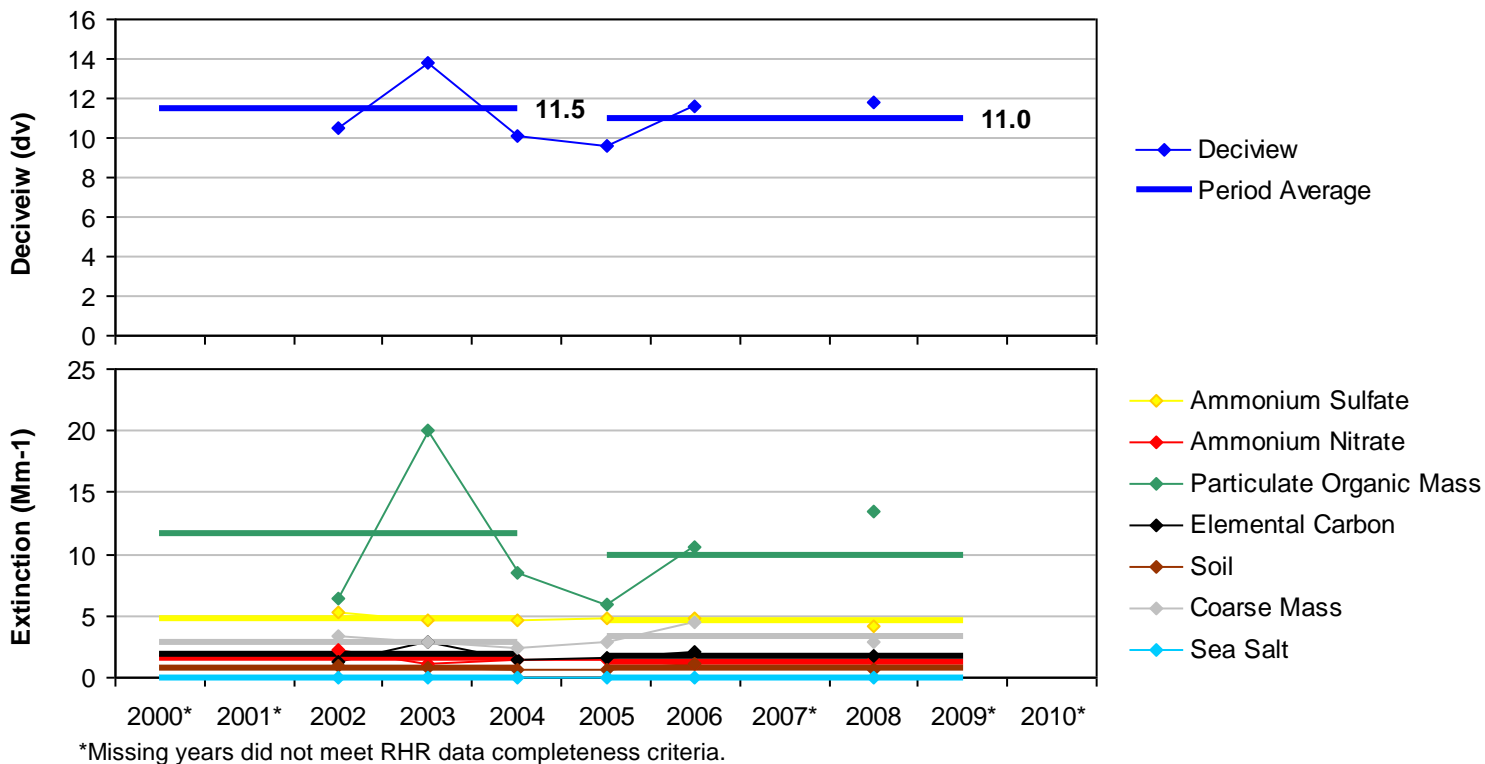
Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P -B)	Percent Change
<b>Deciview (dv)</b>																	
Best 20% Days	---	---	2.2	1.9	2.0	1.3	1.1	---	1.3	---	---	-0.2	0.1	2.0	1.2	-0.8	-40%
Worst 20% Days	---	---	10.5	13.8	10.1	9.6	11.6	---	11.8	---	---	0.1	0.5	11.5	11.0	-0.5	-4%
All Days	---	---	6.3	6.8	5.7	5.4	6.0	---	5.8	---	---	-0.1	0.2	6.2	5.7	-0.5	-8%
<b>Total Extinction (Mm-1)</b>																	
Best 20% Days	---	---	12.6	12.1	12.2	11.4	11.2	---	11.4	---	---	-0.2	0.1	12.3	11.3	-1.0	-8%
Worst 20% Days	---	---	28.7	41.4	28.0	26.4	33.3	---	33.5	---	---	0.1	0.5	32.7	31.0	-1.7	-5%
All Days	---	---	19.6	22.0	18.5	17.9	19.8	---	19.4	---	---	-0.2	0.4	20.0	19.1	-0.9	-5%
<b>Ammonium Sulfate Extinction (Mm-1)</b>																	
Best 20% Days	---	---	1.3	0.9	1.1	1.0	0.9	---	1.2	---	---	0.0	0.4	1.1	1.0	-0.1	-9%
Worst 20% Days	---	---	5.3	4.7	4.6	4.8	4.8	---	4.2	---	---	-0.1	0.2	4.9	4.6	-0.3	-6%
All Days	---	---	3.2	2.8	2.8	2.9	3.2	---	3.0	---	---	0.1	0.4	2.9	3.0	0.1	3%
<b>Ammonium Nitrate Extinction (Mm-1)</b>																	
Best 20% Days	---	---	0.5	0.3	0.4	0.2	0.2	---	0.3	---	---	0.0	0.1	0.4	0.2	-0.2	-50%
Worst 20% Days	---	---	2.3	1.1	1.5	1.4	1.1	---	1.5	---	---	0.0	0.4	1.6	1.4	-0.2	-13%
All Days	---	---	1.2	0.9	0.9	0.9	0.9	---	0.9	---	---	0.0	0.1	1.0	0.9	-0.1	-10%
<b>Particulate Organic Mass Extinction (Mm-1)</b>																	
Best 20% Days	---	---	0.8	0.8	0.9	0.5	0.3	---	0.3	---	---	-0.1	0.0	0.8	0.4	-0.4	-50%
Worst 20% Days	---	---	6.5	20.1	8.4	6.0	10.5	---	13.5	---	---	1.0	0.4	11.6	10.0	-1.6	-14%
All Days	---	---	3.0	5.9	3.3	2.6	3.6	---	3.9	---	---	0.1	0.4	4.1	3.4	-0.7	-17%
<b>Elemental Carbon Extinction (Mm-1)</b>																	
Best 20% Days	---	---	0.2	0.2	0.2	0.2	0.2	---	0.1	---	---	0.0	0.4	0.2	0.2	0.0	0%
Worst 20% Days	---	---	1.3	2.9	1.4	1.6	2.1	---	1.7	---	---	0.1	0.2	1.9	1.8	-0.1	-5%
All Days	---	---	0.7	1.0	0.6	0.8	0.9	---	0.6	---	---	0.0	0.4	0.8	0.8	0.0	0%
<b>Soil Extinction (Mm-1)</b>																	
Best 20% Days	---	---	0.1	0.1	0.1	0.1	0.1	---	0.1	---	---	0.0	0.1	0.1	0.1	0.0	0%
Worst 20% Days	---	---	1.0	0.8	0.7	0.6	1.2	---	0.7	---	---	-0.1	0.2	0.8	0.8	0.0	0%
All Days	---	---	0.5	0.4	0.4	0.3	0.5	---	0.3	---	---	0.0	0.1	0.4	0.4	0.0	0%
<b>Coarse Mass Extinction (Mm-1)</b>																	
Best 20% Days	---	---	0.7	0.8	0.6	0.4	0.5	---	0.4	---	---	-0.1	0.1	0.7	0.4	-0.3	-43%
Worst 20% Days	---	---	3.4	2.9	2.4	2.9	4.4	---	2.9	---	---	0.0	0.5	2.9	3.4	0.5	17%
All Days	---	---	1.9	1.9	1.5	1.4	1.9	---	1.6	---	---	-0.1	0.2	1.8	1.6	-0.2	-11%
<b>Sea Salt Extinction (Mm-1)</b>																	
Best 20% Days	---	---	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	---	---	0.0	0.0	0.0	0.0	0.0	---	0.0	---	---	0.0	0.0	0.0	0.0	0.0	0%
All Days	---	---	0.0	0.0	0.0	0.0	0.0	---	0.0	---	---	0.0	0.5	0.0	0.0	0.0	0%

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

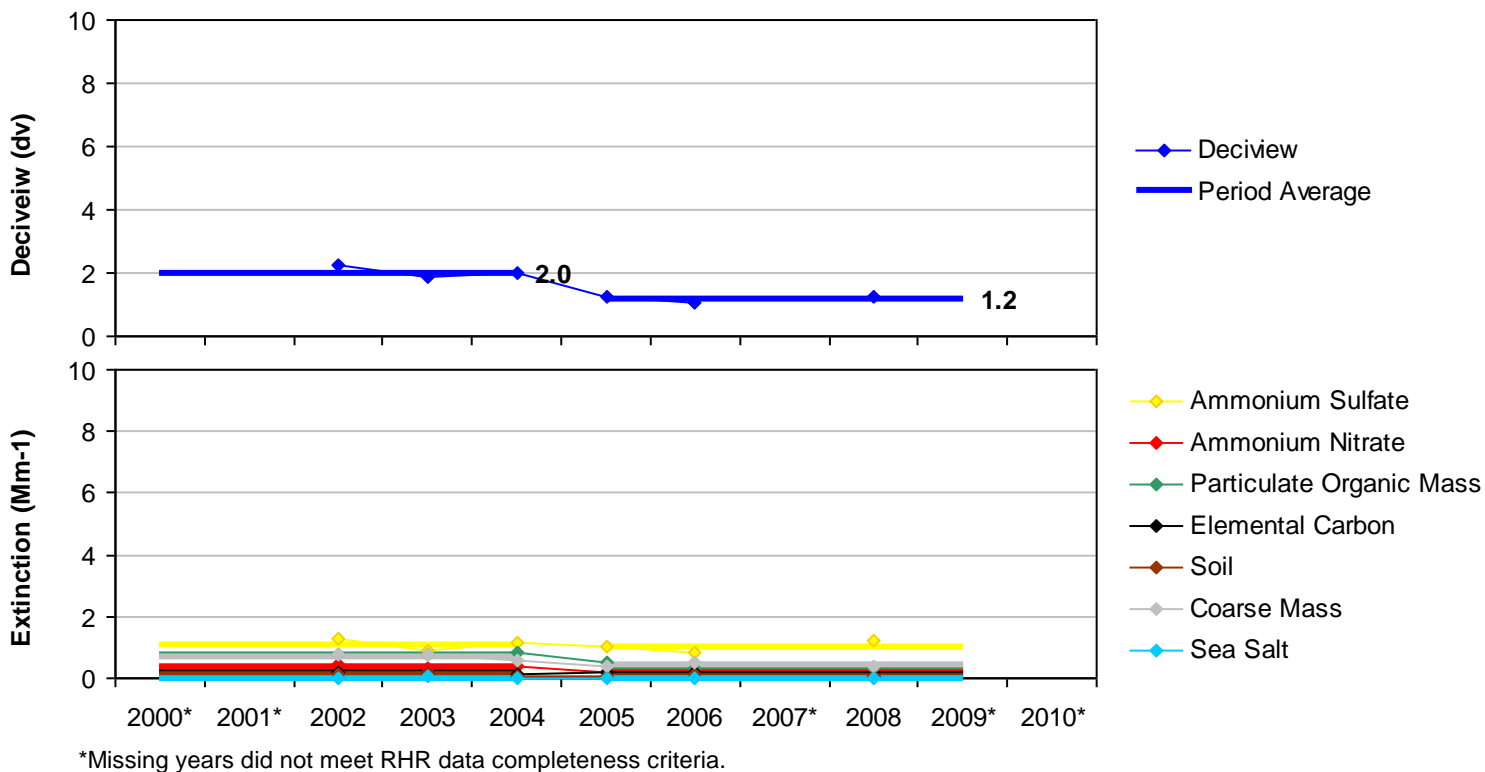
\*\*Values highlighted in blue indicate a decrease in the 5-year average, values highlighted in red indicate an increase.

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

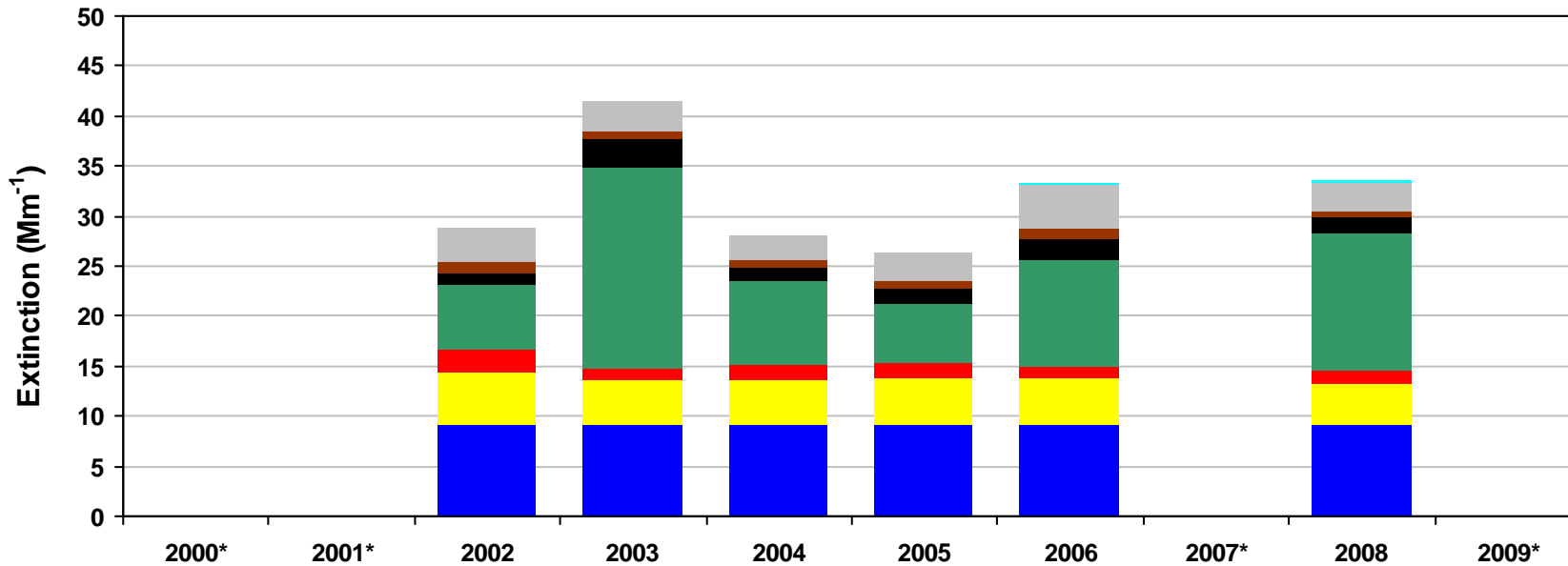
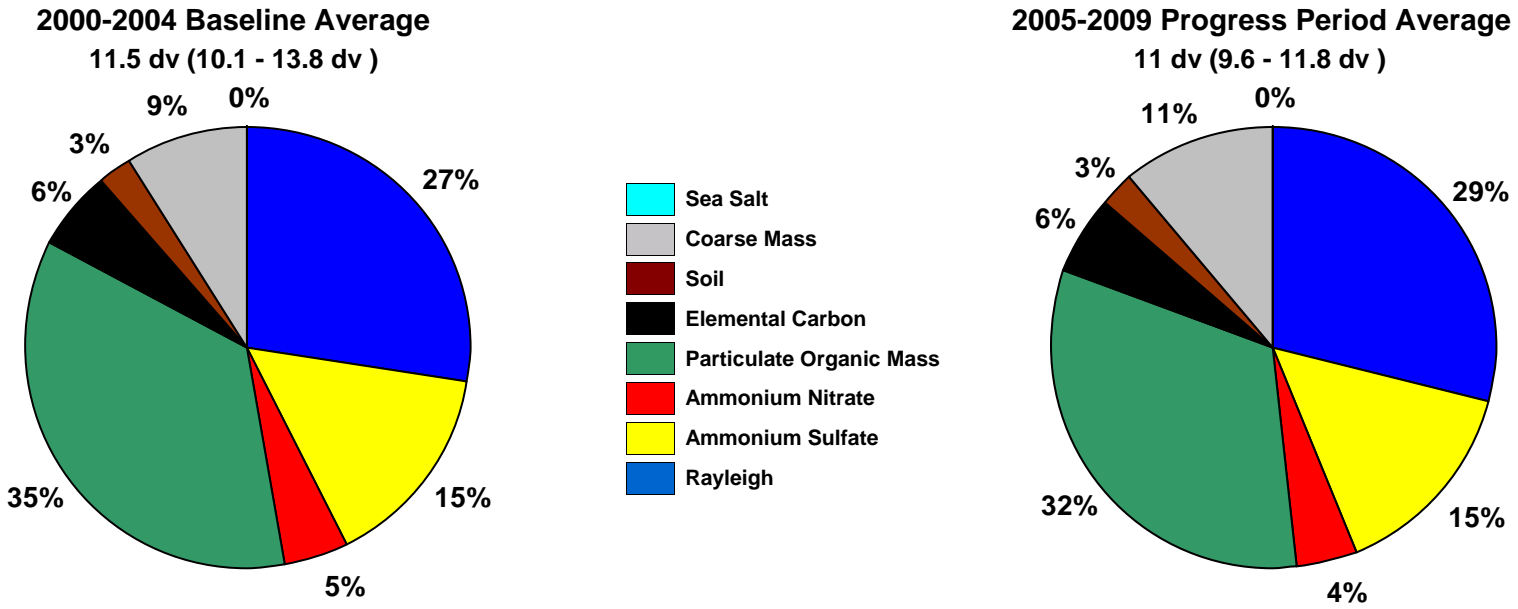
**Figure O.2-1**  
**North Absaroka WA and Washakie WA, WY (NOAB1 Site)**  
**Annual and 5-Year Period Averages**  
**20% Most Impaired Visibility Days**



**Figure O.2-2**  
**North Absaroka WA and Washakie WA, WY (NOAB1 Site)**  
**Annual and 5-Year Period Averages**  
**20% Least Impaired Visibility Days**

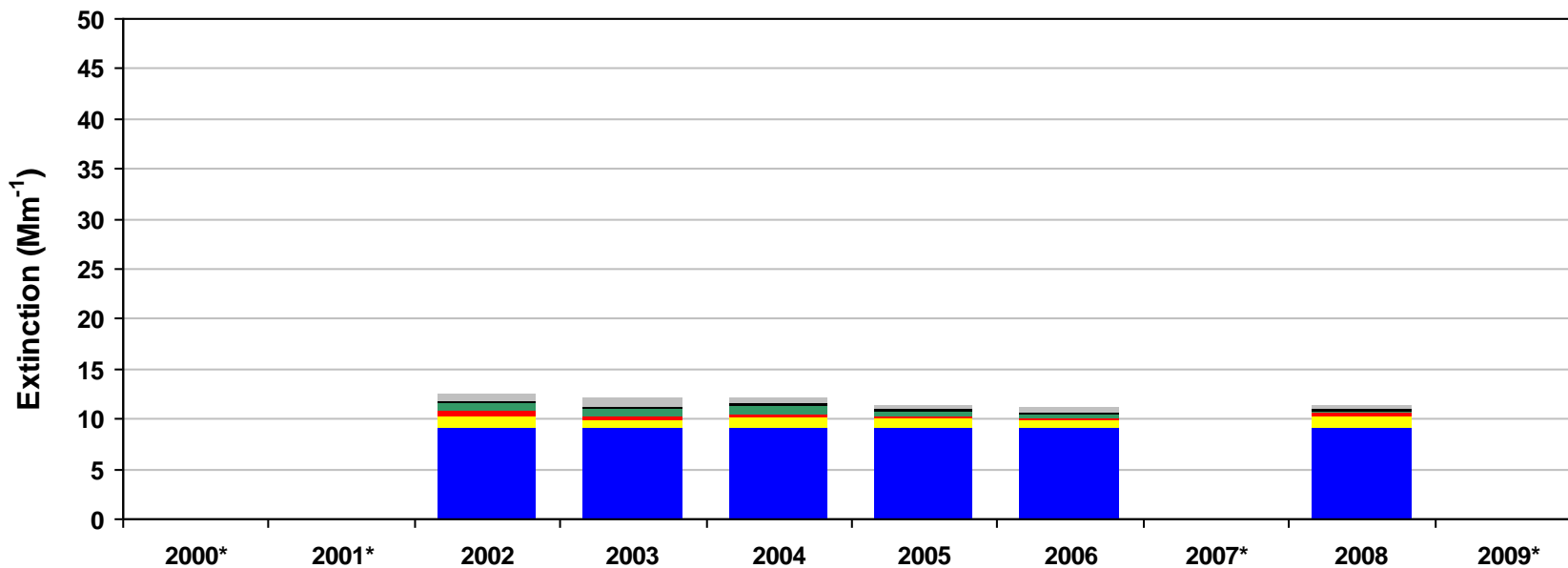
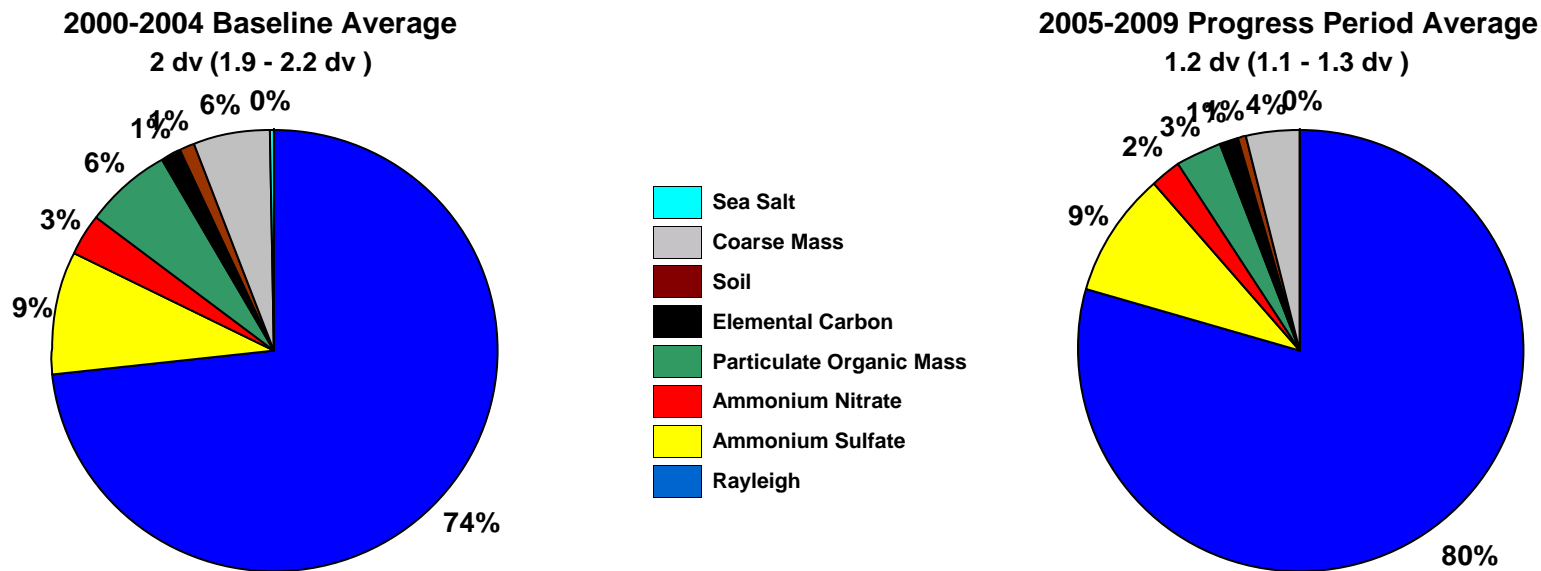


**Figure O.2-3**  
**North Absaroka WA and Washakie WA, WY (NOAB1 Site)**  
**20% Most Impaired Visibility Days**



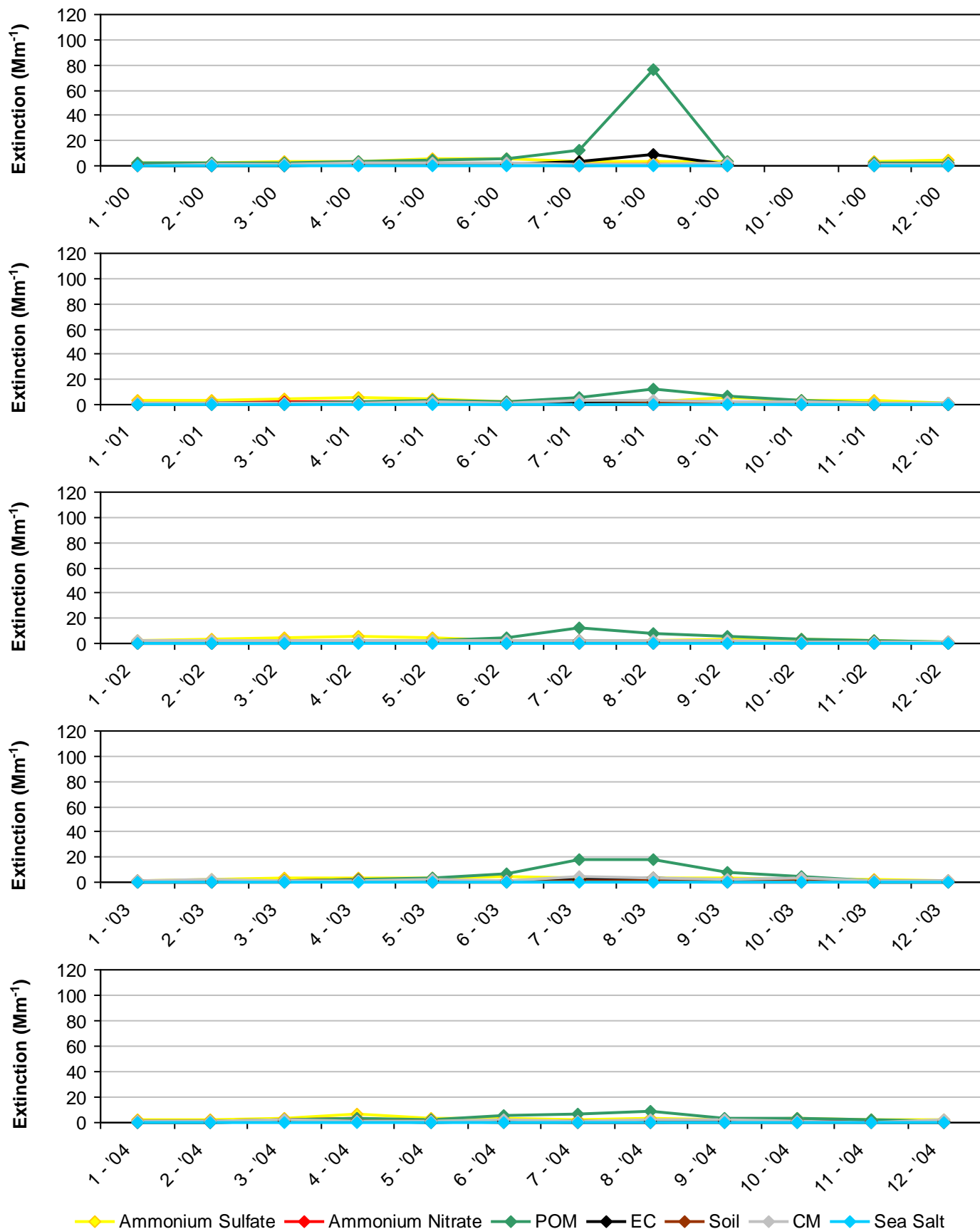
\*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.

**Figure O.2-4**  
**North Absaroka WA and Washakie WA, WY (NOAB1 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.

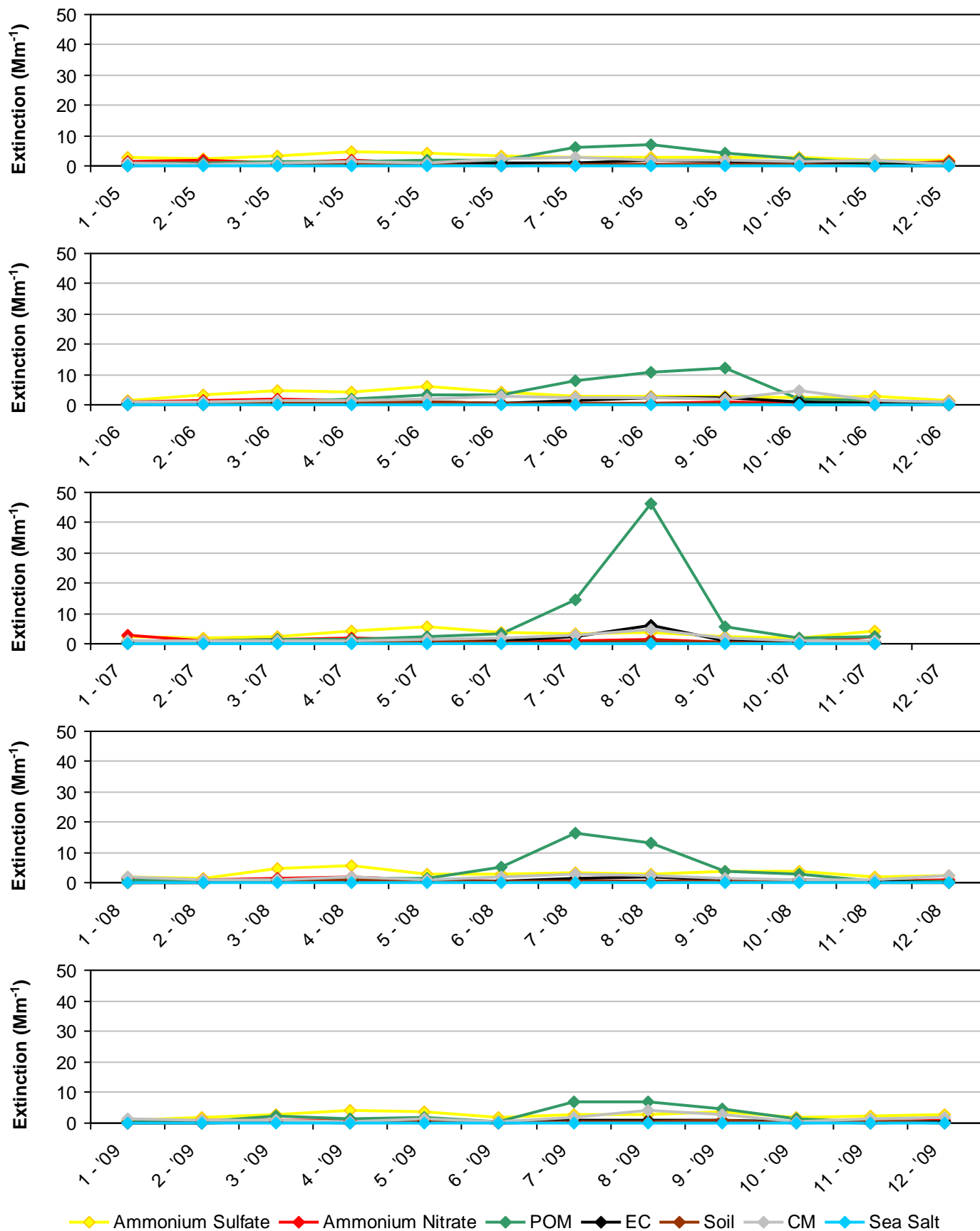
**Figure O.2-5**  
**North Absaroka WA and Washakie WA, WY (NOAB1 Site)**  
**2000-2004 Monthly Average Aerosol Extinction, All Monitored Days**



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

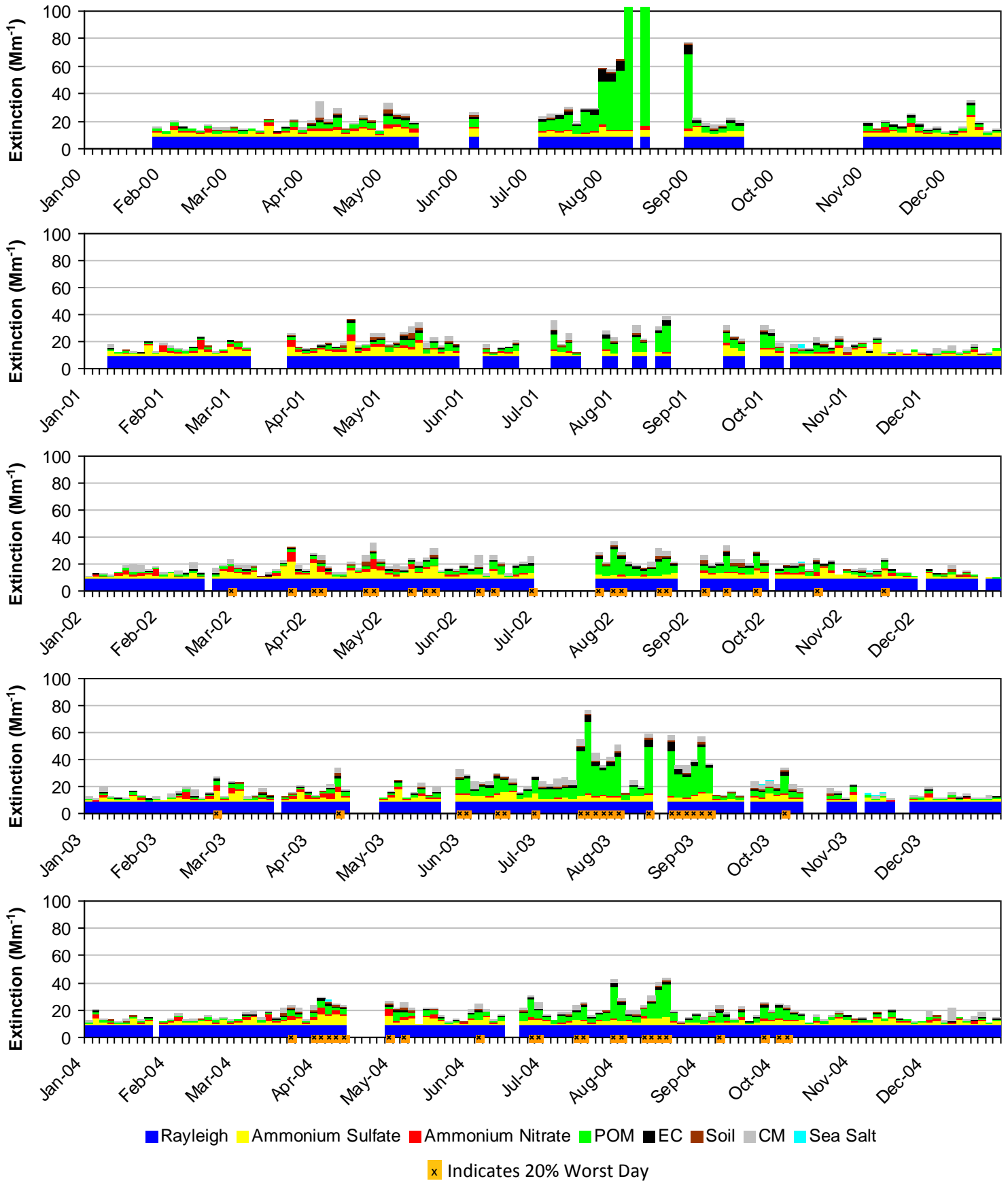


**Figure O.2-6**  
**North Absaroka WA and Washakie WA, WY (NOAB1 Site)**  
**2005-2009 Monthly Average Aerosol Extinction, All Monitored Days**



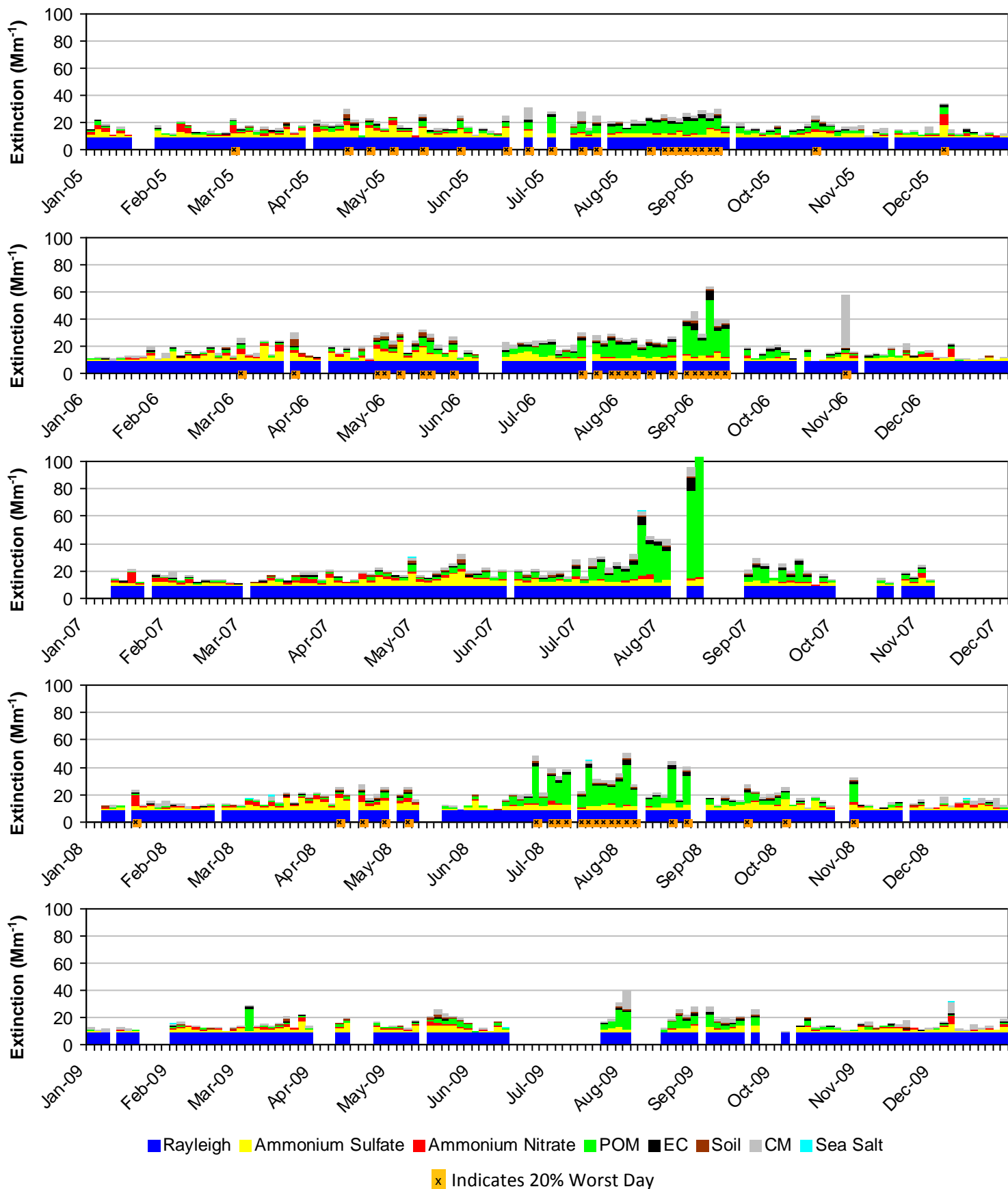
\*Note that monthly averages for the years 2007 and 2009 are shown here, but these years did not meet RHR data completeness criteria.

**Figure O.2-7**  
**North Absaroka WA and Washakie WA, WY (NOAB1 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 O.2-8**  
**North Absaroka WA and Washakie WA, WY (NOAB1 Site)**  
**2005-2009 Progress Period Extinction, All Sampled Days**



\*Note that daily averages for the years 2007 and 2009 are shown here, but these years did not meet RHR data completeness criteria.

### **O.3. YELLOWSTONE NP, GRAND TETON NP, RED ROCK LAKES WA, AND TETON WA (YELL2)**

The following tables and figures are presented in this section for the Yellowstone NP, Grand Teton NP, Red Rock Lakes WA, and Teton WA represented by the YELL2 IMPROVE Monitor:

- **Table O.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 O.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 O.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 O.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 O.3-4: 20% Least Impaired Visibility Days:** Pie charts depicting period averages and stacked bar charts depicting annual averages by component are presented.
- **Figure O.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 O.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 O.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 O.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 O.3-1**  
**Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)**  
**Annual Averages, 5-Year Period Averages and Trends**

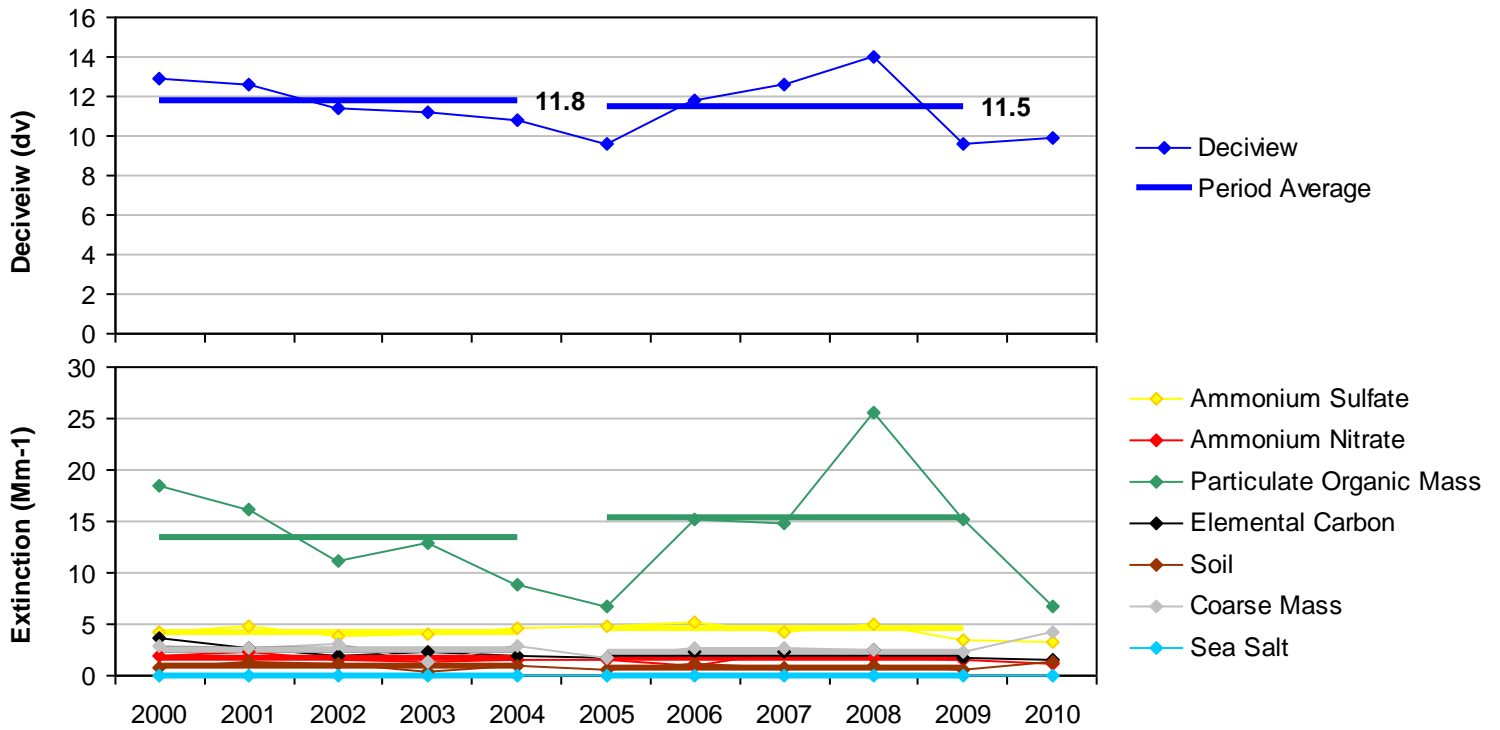
Group	Baseline Period					Progress Period					2010	2000-2009 Trend Statistics*		Period Averages**			
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009		Slope (change/yr.)	p-value	Baseline (B)	Progress (P)	Difference (P-B)	Percent Change
<b>Deciview (dv)</b>																	
Best 20% Days	2.8	3.0	2.6	1.9	2.6	2.1	2.3	2.2	1.8	1.9	0.9	-0.1	0.0	2.6	2.0	-0.6	-23%
Worst 20% Days	12.9	12.6	11.4	11.2	10.8	9.6	11.8	12.6	14.0	9.6	9.9	-0.2	0.2	11.8	11.5	-0.3	-3%
All Days	7.1	7.1	6.8	6.1	6.5	5.8	6.6	6.8	6.7	5.4	4.8	-0.1	0.1	6.7	6.3	-0.4	-6%
<b>Total Extinction (Mm-1)</b>																	
Best 20% Days	13.3	13.6	13.0	12.2	13.0	12.3	12.6	12.5	12.0	12.2	10.9	-0.1	0.0	13.0	12.3	-0.7	-5%
Worst 20% Days	40.9	38.9	31.8	31.4	29.8	26.3	36.2	36.3	47.6	34.1	27.4	-0.5	0.4	34.5	36.1	1.6	5%
All Days	22.5	22.2	20.7	19.7	20.0	18.5	21.3	21.4	23.1	19.4	17.1	-0.2	0.3	21.0	20.7	-0.3	-1%
<b>Ammonium Sulfate Extinction (Mm-1)</b>																	
Best 20% Days	1.7	1.9	1.3	1.1	1.3	1.5	1.6	1.2	1.1	1.4	1.0	0.0	0.2	1.5	1.4	-0.1	-7%
Worst 20% Days	4.2	4.7	3.8	4.1	4.6	4.8	5.1	4.3	5.0	3.5	3.4	0.1	0.3	4.3	4.6	0.3	7%
All Days	3.1	3.6	3.0	2.5	3.1	3.3	3.5	3.1	3.1	2.7	2.4	0.0	0.5	3.1	3.2	0.1	3%
<b>Ammonium Nitrate Extinction (Mm-1)</b>																	
Best 20% Days	0.9	0.8	0.8	0.5	0.6	0.3	0.4	0.7	0.6	0.6	0.2	0.0	0.1	0.7	0.5	-0.2	-29%
Worst 20% Days	2.0	2.4	1.6	1.4	1.5	1.6	0.9	2.4	1.7	1.6	1.2	0.0	0.3	1.8	1.6	-0.2	-11%
All Days	1.5	1.5	1.6	1.2	1.3	1.1	1.1	1.7	1.3	1.1	0.8	0.0	0.2	1.4	1.2	-0.2	-14%
<b>Particulate Organic Mass Extinction (Mm-1)</b>																	
Best 20% Days	1.1	1.2	1.1	0.9	1.3	1.1	0.8	1.0	0.8	0.5	0.3	-0.1	0.0	1.1	0.8	-0.3	-27%
Worst 20% Days	18.4	16.1	11.2	12.8	8.9	6.7	15.1	14.7	25.6	15.2	6.8	0.0	0.5	13.5	15.5	2.0	15%
All Days	6.0	5.3	4.4	4.7	4.0	3.1	5.1	4.8	7.2	4.4	2.4	-0.1	0.3	4.9	4.9	0.0	0%
<b>Elemental Carbon Extinction (Mm-1)</b>																	
Best 20% Days	0.2	0.4	0.3	0.2	0.5	0.3	0.4	0.3	0.1	0.2	0.1	0.0	0.2	0.3	0.3	0.0	0%
Worst 20% Days	3.7	2.6	1.9	2.3	1.9	1.8	2.3	2.4	2.6	1.7	1.6	0.0	0.2	2.5	2.2	-0.3	-12%
All Days	1.3	1.1	1.0	1.0	1.0	0.9	1.1	1.0	0.9	0.7	0.6	0.0	0.0	1.1	0.9	-0.2	-18%
<b>Soil Extinction (Mm-1)</b>																	
Best 20% Days	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0%
Worst 20% Days	0.8	1.4	1.2	0.4	0.9	0.6	1.1	0.8	1.0	0.6	1.3	0.0	0.3	1.0	0.8	-0.2	-20%
All Days	0.4	0.6	0.5	0.3	0.4	0.3	0.4	0.5	0.4	0.3	0.5	0.0	0.4	0.4	0.4	0.0	0%
<b>Coarse Mass Extinction (Mm-1)</b>																	
Best 20% Days	0.3	0.2	0.3	0.2	0.3	0.1	0.2	0.2	0.3	0.3	0.1	0.0	0.5	0.2	0.2	0.0	0%
Worst 20% Days	2.8	2.7	3.1	1.3	2.9	1.8	2.6	2.6	2.6	2.3	4.2	0.0	0.1	2.6	2.4	-0.2	-8%
All Days	1.2	1.2	1.3	0.9	1.1	0.8	1.1	1.4	1.0	1.2	1.4	0.0	0.3	1.1	1.1	0.0	0%
<b>Sea Salt Extinction (Mm-1)</b>																	
Best 20% Days	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0%
Worst 20% Days	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0%
All Days	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0%

\*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 O.3-1**  
**Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)**  
**Annual and 5-Year Period Averages**  
**20% Most Impaired Visibility Days**



**Figure O.3-2**  
**Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)**  
**Annual and 5-Year Period Averages**  
**20% Least Impaired Visibility Days**

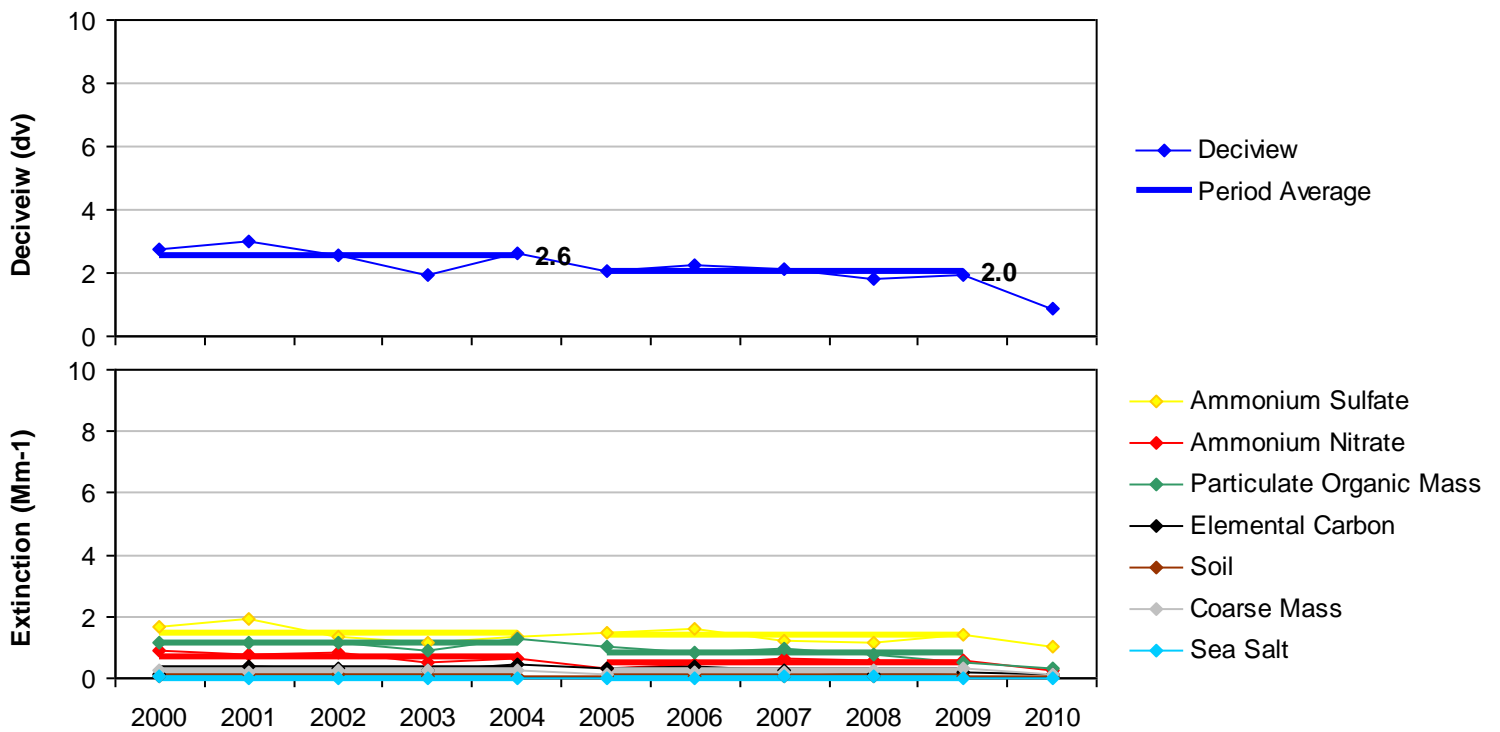


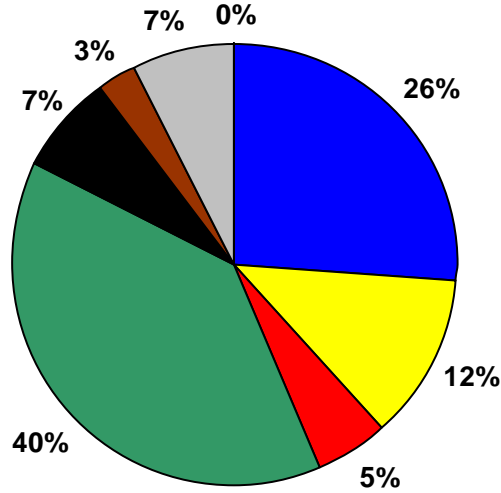
Figure O.3-3

Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)

20% Most Impaired Visibility Days

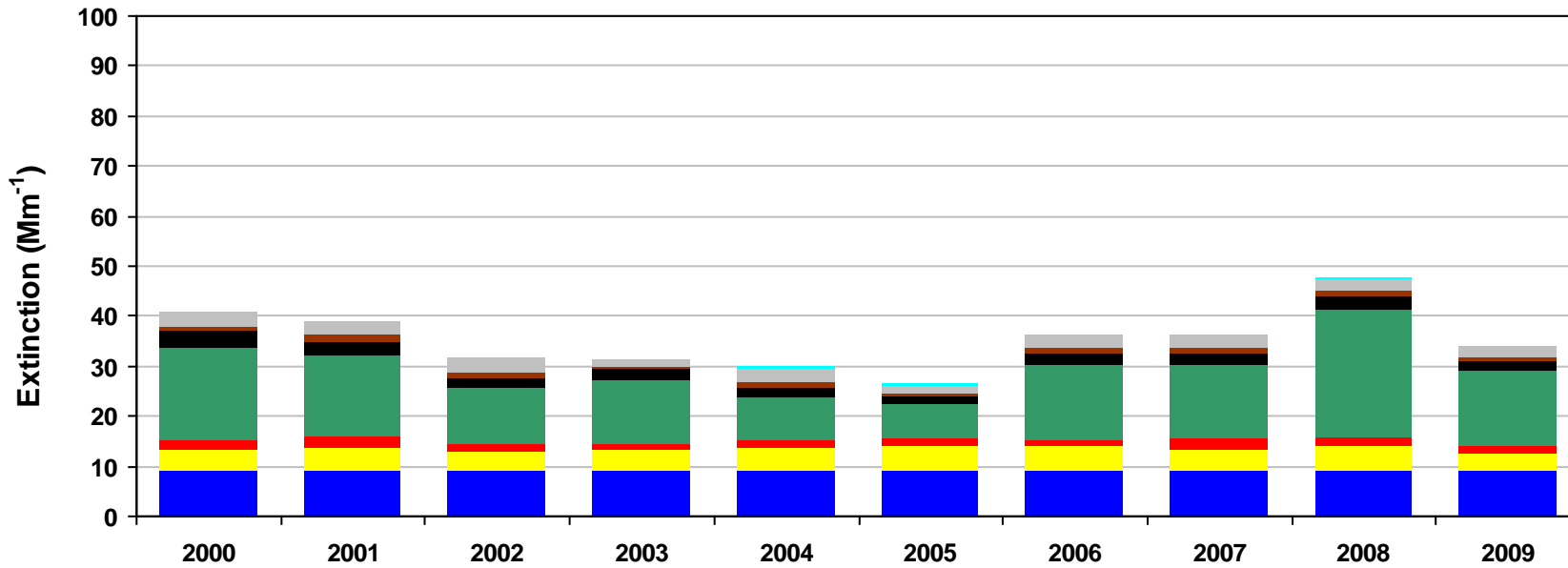
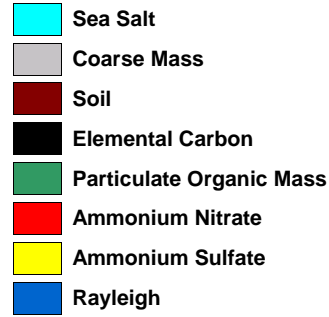
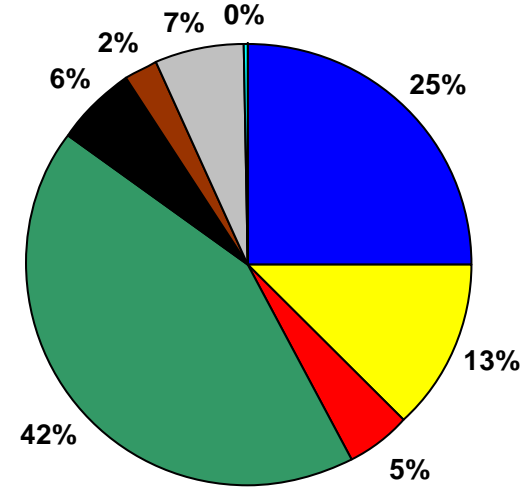
2000-2004 Baseline Average

11.8 dv (10.8 - 12.9 dv)



2005-2009 Progress Period Average

11.5 dv (9.6 - 14 dv)



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

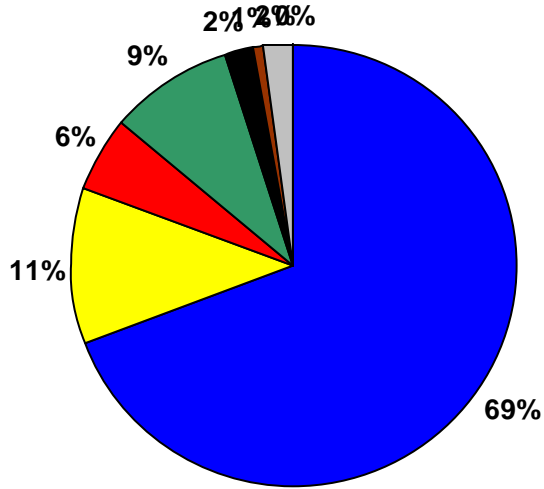
Figure O.3-4

Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)

20% Least Impaired Visibility Days

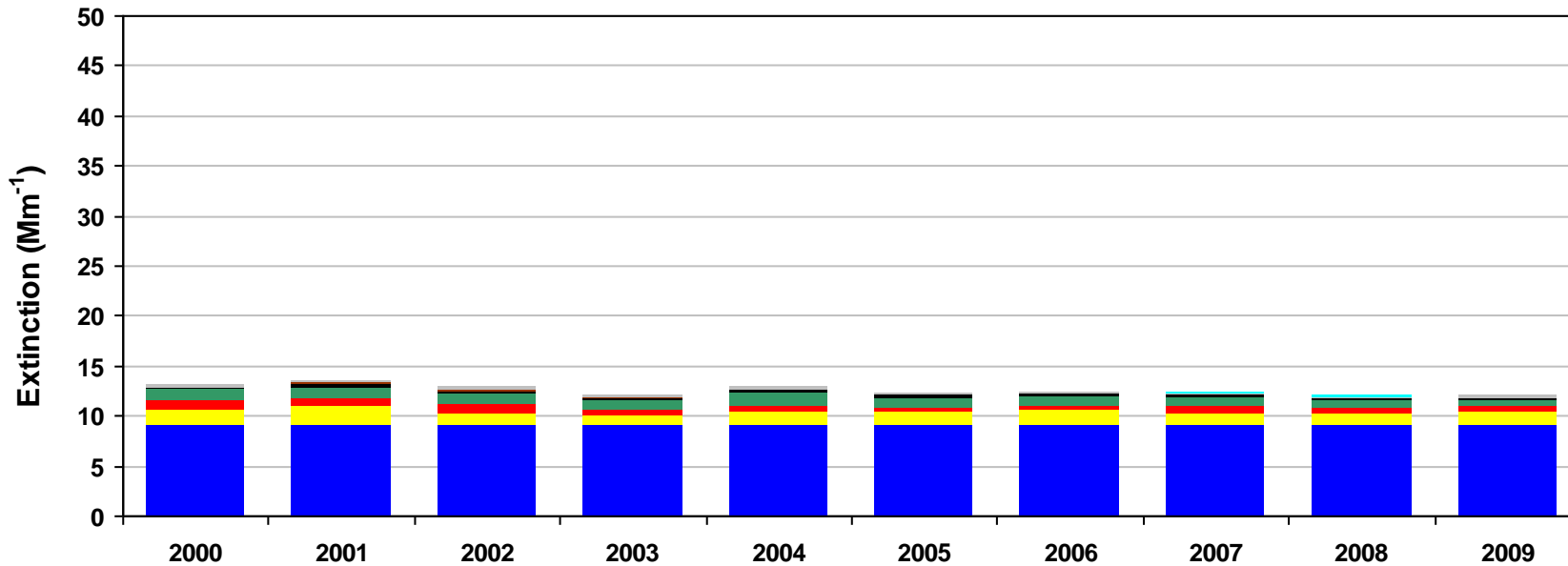
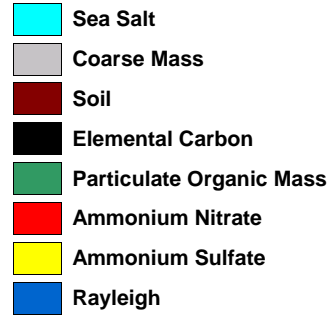
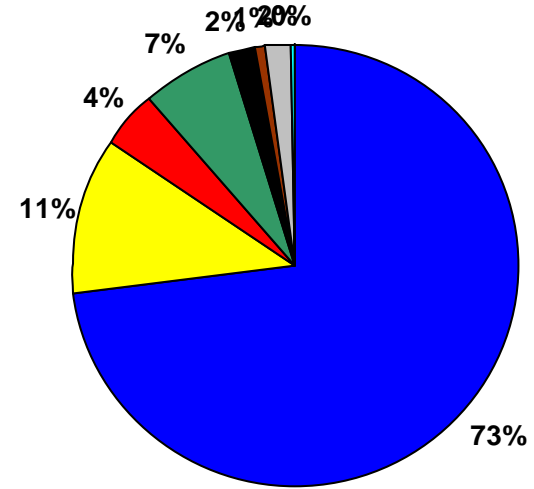
2000-2004 Baseline Average

2.6 dv (1.9 - 3 dv)



2005-2009 Progress Period Average

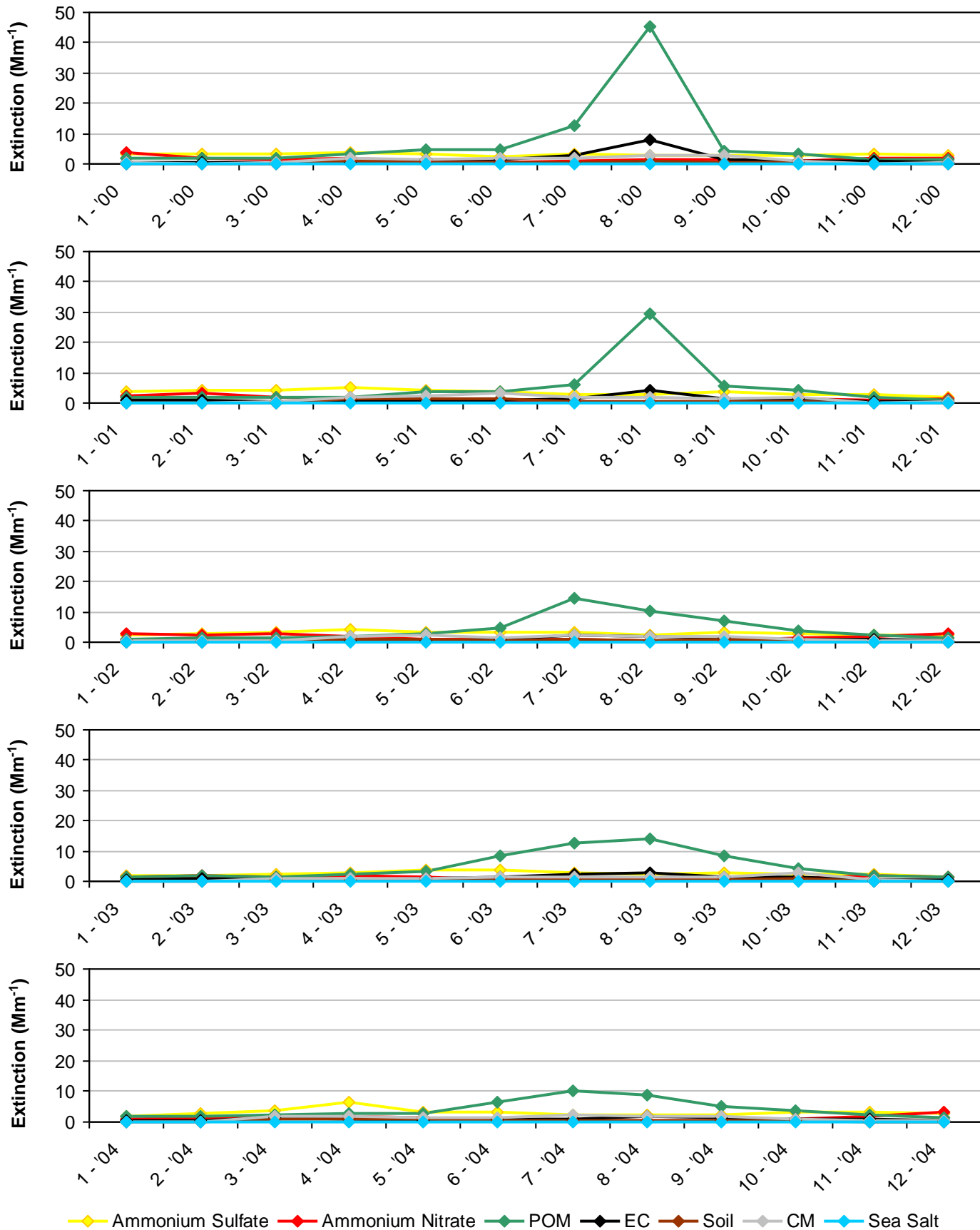
2 dv (1.8 - 2.3 dv)



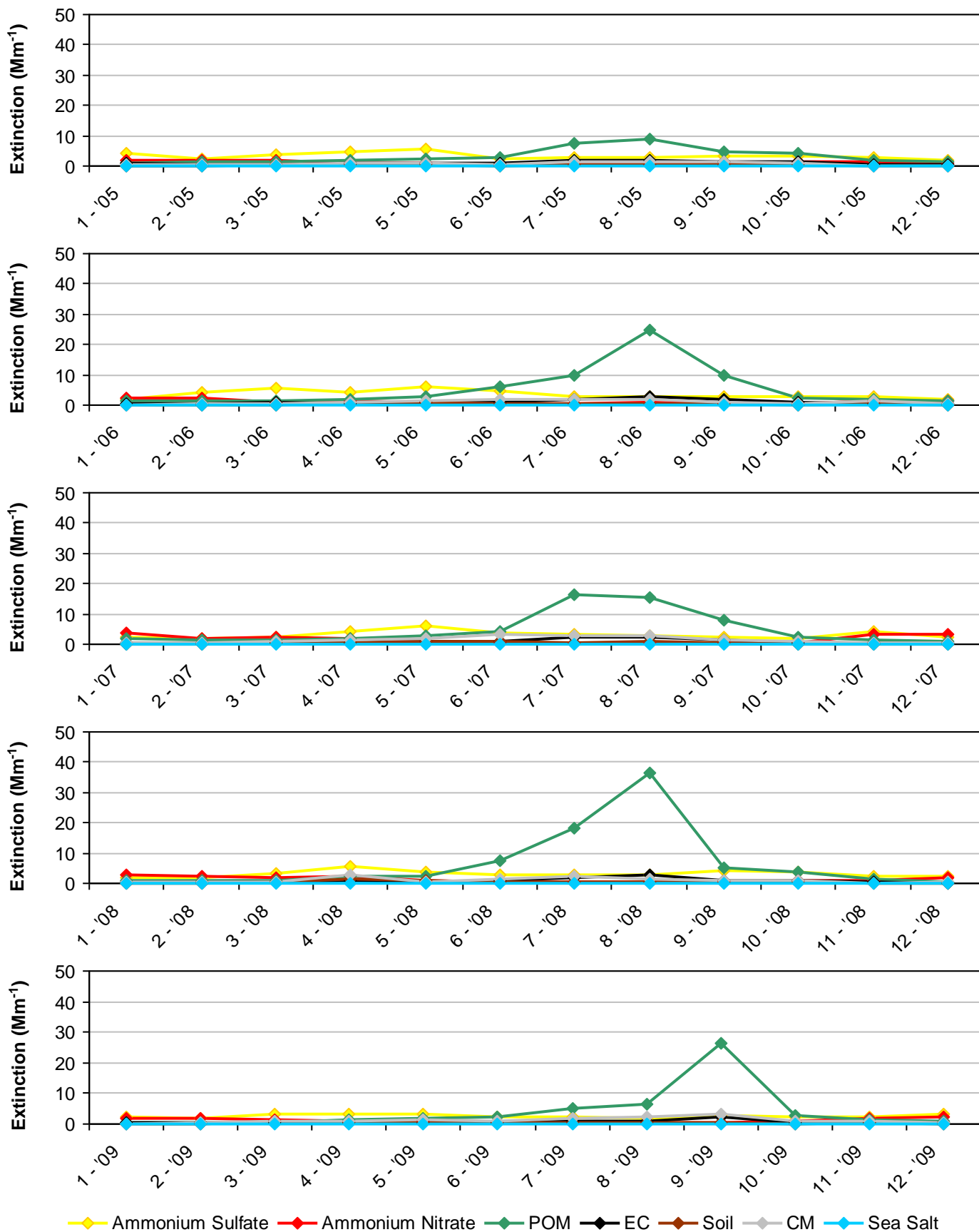
\*Missing years did not meet RHR data completeness criteria. Only complete years are included in 5-year average pie charts.



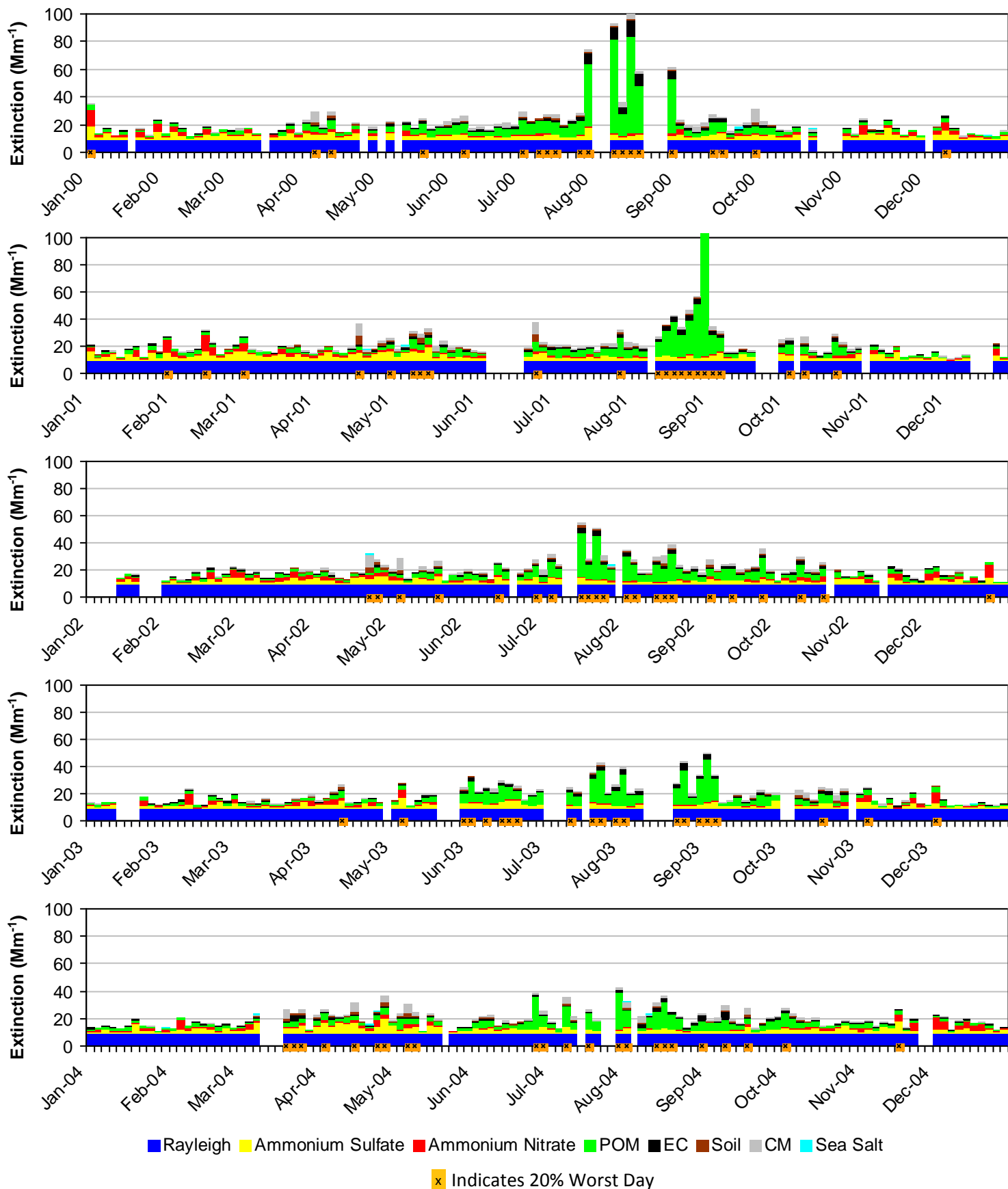
**Figure O.3-5**  
**Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)**  
**2000-2004 Monthly Average Aerosol Extinction, All Monitored Days**



**Figure O.3-6**  
**Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)**  
**2005-2009 Monthly Average Aerosol Extinction, All Monitored Days**



**Figure O.3-7**  
**Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)**  
**2000-2004 Progress Period Extinction, All Sampled Days**



**Figure O.3-8**  
**Yellowstone NP, Grand Teton NP, Red Rock Lakes WA and Teton WA, WY (YELL2 Site)**  
**2005-2009 Progress Period Extinction, All Sampled Days**

