Washington State Regional Haze State Implementation Plan

Appendix E

Mandatory Class I Area Summary Tables

Class I Area Summary Tables - Olympic National Park

	Class I Area Visibility Summary: Olympic NP, WA **Visibility Conditions:** Worst 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[1] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[1] (%)
Sulfate	16.67	1.53	11.93	16.24	-33,830 -39%	-14%	-14%
Nitrate	8.3	2.04	6.60	5.91	-174,838 -46%	-42%	-42%
Organic Carbon	12.06	3.05	9.51	13.23	2,178 4%	20%	22%
Elemental Carbon	2.74	0.29	2.12	2.3	-3,329 -25%	-23%	-24%
Fine Soil	0.3	0.26	0.29	0.41	8,216 23%	30%	30%
Coarse Material[2]	1.78	1.94	1.81	Not Applicable	40,184 38%	9%	10%
Sea Salt[2]	1.44	3.39	1.87		Not Applicable		
Total Light Extinction	54.28	23.50	44.57	52.31			
Deciview	16.74	8.44	14.81	16.38			

WRAP TSS - 12/31/2008

1) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
2) Visibility projections not available due to model performance issues.

	Class I Area Visibility Summary: Olympic NP, WA **Visibility Conditions:** Best 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)[1]	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[2] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[2] (%)
Sulfate	2.66	0.39	Not Applicable	2.39	-33,830 -39%	-21%	-21%
Nitrate	1.24	0.34	Not Applicable	1	-174,838 -46%	-42%	-42%
Organic Carbon	1.91	0.66	Not Applicable	2.19	2,178 4%	23%	25%
Elemental Carbon	0.65	0.09	Not Applicable	0.5	-3,329 -25%	-20%	-21%
Fine Soil	0.03	0.03	Not Applicable	0.04	8,216 23%	30%	31%
Coarse Material[3]	0.32	0.3	Not Applicable	Not Applicable	40,184 38%	6%	6%
Sea Salt[3]	0.62	0.31	Not Applicable		Not Applicable		
Total Light Extinction	18.43	13.12	Not Applicable	18.06			
Deciview	6.02	2.7	Not Applicable	5.82			

WRAP TSS - 12/31/2008

1) 2018 Uniform Rate of Progress Target for Best 20% Days is not defined.
2) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
3) Visibility projections not available due to model performance issues.

Class I Area Summary Tables - North Cascades National Park and Glacier Peak Wilderness

	Class I Area Visibility Summary: Glacier Peak W, WA: North Cascades NP, WA **Visibility Conditions:** Worst 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRPa (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[1] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[1] (%)
Sulfate	14.87	2.03	10.99	18.19	-33,830 -39%	-10%	-10%
Nitrate	2.69	2.11	2.56	2.43	-174,838 -46%	-37%	-39%
Organic Carbon	33.02	6.48	24.39	39.74	2,178 4%	6%	12%
Elemental Carbon	3.81	0.51	2.95	3.22	-3,329 -25%	-20%	-30%
Fine Soil	0.48	0.5	0.48	0.89	8,216 23%	29%	31%
Coarse Material[2]	1.75	1.89	1.78	Not Applicable	40,184 38%	41%	50%
Sea Salt[2]	0.01	0.2	0.05		Not Applicable		
Total Light Extinction	67.64	24.72	53.36	77.23			
Deciview	16.01	8.39	14.23	17.24			

WRAP TSS - 12/24/2009

1) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRPa (prp18a) emissions scenarios.
2) Visibility projections not available due to model performance issues.

	Class I Area Visibility Summary: Glacier Peak W, WA: North Cascades NP, WA **Visibility Conditions:** Best 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRPa (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)[1]	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[2] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[2] (%)
Sulfate	1.39	0.26	Not Applicable	1.36	-33,830 -39%	-30%	-31%
Nitrate	0.42	0.32	Not Applicable	0.26	-174,838 -46%	-48%	-50%
Organic Carbon	0.64	0.26	Not Applicable	0.64	2,178 4%	2%	3%
Elemental Carbon	0.24	0.05	Not Applicable	0.23	-3,329 -25%	-26%	-38%
Fine Soil	0.04	0.04	Not Applicable	0.05	8,216 23%	22%	24%
Coarse Material[3]	0.19	0.17	Not Applicable	Not Applicable	40,184 38%	48%	64%
Sea Salt[3]	0.13	0.05	Not Applicable		Not Applicable		
Total Light Extinction	14.05	12.13	Not Applicable	13.87			
Deciview	3.37	1.93	Not Applicable	3.24			

WRAP TSS - 12/24/2009

1) 2018 Uniform Rate of Progress Target for Best 20% Days is not defined.
2) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRPa (prp18a) emissions scenarios.
3) Visibility projections not available due to model performance issues.

Class I Area Summary Tables – Alpine Lakes Wilderness

	Class I Area Visibility Summary: Alpine Lakes W, WA **Visibility Conditions:** Worst 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[1] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[1] (%)
Sulfate	17.08	2.01	12.40	14.66	-33,830 -39%	-32%	-32%
Nitrate	11.56	2.62	9.03	7.49	-174,838 -46%	-51%	-53%
Organic Carbon	15.41	4.45	12.27	14.52	2,178 4%	-3%	-4%
Elemental Carbon	4.22	0.37	3.21	2.61	-3,329 -25%	-39%	-43%
Fine Soil	0.42	0.53	0.45	0.52	8,216 23%	19%	20%
Coarse Material[2]	1.5	1.69	1.54	Not Applicable	40,184 38%	60%	80%
Sea Salt[2]	0.44	0.97	0.56		Not Applicable		
Total Light Extinction	61.63	23.62	49.17	52.74			
Deciview	17.84	8.43	15.64	16.32			

WRAP TSS - 12/31/2008

1) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
2) Visibility projections not available due to model performance issues.

	Class I Area Visibility Summary: Alpine Lakes W, WA **Visibility Conditions:** Best 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)[1]	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[2] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[2] (%)
Sulfate	2.6	0.41	Not Applicable	2.01	-33,830 -39%	-45%	-45%
Nitrate	1.16	0.31	Not Applicable	0.97	-174,838 -46%	-52%	-53%
Organic Carbon	1.06	0.43	Not Applicable	1.08	2,178 4%	-3%	-4%
Elemental Carbon	0.88	0.09	Not Applicable	0.52	-3,329 -25%	-39%	-43%
Fine Soil	0.06	0.05	Not Applicable	0.07	8,216 23%	21%	22%
Coarse Material[3]	0.21	0.18	Not Applicable	Not Applicable	40,184 38%	81%	106%
Sea Salt[3]	0.51	0.16	Not Applicable		Not Applicable		
Total Light Extinction	17.48	12.64	Not Applicable	16.37			
Deciview	5.5	2.33	Not Applicable	4.86			

WRAP TSS - 12/31/2008

1) 2018 Uniform Rate of Progress Target for Best 20% Days is not defined.
2) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
3) Visibility projections not available due to model performance issues.

Class I Area Summary Tables - Mount Rainier National Park

	Class I Area Visibility Summary: Mount Rainier NP, WA **Visibility Conditions:** Worst 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[1] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[1] (%)
Sulfate	23.7	2.2	16.58	18.55	-33,830 -39%	-49%	-49%
Nitrate	5.14	2.62	4.51	4.15	-174,838 -46%	-50%	-51%
Organic Carbon	15.06	3.44	11.67	14.18	2,178 4%	-7%	-8%
Elemental Carbon	5.13	0.34	3.85	2.8	-3,329 -25%	-43%	-44%
Fine Soil	0.51	0.55	0.52	0.61	8,216 23%	18%	19%
Coarse Material[2]	2.2	2.45	2.26	Not Applicable	40,184 38%	109%	128%
Sea Salt[2]	0.06	0.99	0.27		Not Applicable		
Total Light Extinction	62.81	23.59	49.87	53.54			
Deciview	18.24	8.54	15.98	16.66			

WRAP TSS - 12/31/2008

1) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
2) Visibility projections not available due to model performance issues.

	Class I Area Visibility Summary: Mount Rainier NP, WA **Visibility Conditions:** Best 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)[1]	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[2] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[2] (%)
Sulfate	2.57	0.34	Not Applicable	1.78	-33,830 -39%	-44%	-45%
Nitrate	0.64	0.31	Not Applicable	0.61	-174,838 -46%	-49%	-50%
Organic Carbon	1.49	0.52	Not Applicable	1.4	2,178 4%	-4%	-5%
Elemental Carbon	0.66	0.06	Not Applicable	0.44	-3,329 -25%	-34%	-39%
Fine Soil	0.05	0.06	Not Applicable	0.05	8,216 23%	15%	17%
Coarse Material[3]	0.55	0.5	Not Applicable	Not Applicable	40,184 38%	87%	125%
Sea Salt[3]	0.49	0.14	Not Applicable		Not Applicable		
Total Light Extinction	17.44	12.93	Not Applicable	16.33			
Deciview	5.47	2.56	Not Applicable	4.83			

WRAP TSS - 12/31/2008

1) 2018 Uniform Rate of Progress Target for Best 20% Days is not defined.
2) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
3) Visibility projections not available due to model performance issues.

Class I Area Summary Tables – Goat Rocks Wilderness and Mount Adams Wilderness

	Class I Area Visibility Summary: Goat Rocks W, WA: Mount Adams W, WA **Visibility Conditions:** Worst 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[1] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[1] (%)
Sulfate	9.92	1.97	7.69	8.52	-33,830 -39%	-42%	-42%
Nitrate	3.05	2.42	2.90	2.14	-174,838 -46%	-49%	-50%
Organic Carbon	9.63	5.7	8.63	8.93	2,178 4%	0%	0%
Elemental Carbon	1.79	0.48	1.47	1.18	-3,329 -25%	-35%	-39%
Fine Soil	0.56	0.63	0.58	0.71	8,216 23%	11%	11%
Coarse Material[2]	1.74	1.92	1.78	Not Applicable	40,184 38%	59%	83%
Sea Salt[2]	0.39	0.51	0.42		Not Applicable		
Total Light Extinction	37.09	23.63	33.38	33.60			
Deciview	12.76	8.35	11.73	11.79			

WRAP TSS - 12/31/2008

1) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
2) Visibility projections not available due to model performance issues.

	Class I Area Visibility Summary: Goat Rocks W, WA: Mount Adams W, WA **Visibility Conditions:** Best 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)[1]	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[2] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[2] (%)
Sulfate	0.89	0.23	Not Applicable	0.65	-33,830 -39%	-45%	-46%
Nitrate	0.24	0.17	Not Applicable	0.27	-174,838 -46%	-47%	-49%
Organic Carbon	0.25	0.17	Not Applicable	0.27	2,178 4%	2%	3%
Elemental Carbon	0.14	0.04	Not Applicable	0.11	-3,329 -25%	-26%	-32%
Fine Soil	0.03	0.04	Not Applicable	0.04	8,216 23%	4%	4%
Coarse Material[3]	0.15	0.12	Not Applicable	Not Applicable	40,184 38%	50%	80%
Sea Salt[3]	0.13	0.08	Not Applicable		Not Applicable		
Total Light Extinction	11.84	10.86	Not Applicable	11.61			
Deciview	1.66	0.82	Not Applicable	1.47			

WRAP TSS - 12/31/2008

1) 2018 Uniform Rate of Progress Target for Best 20% Days is not defined.
2) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
3) Visibility projections not available due to model performance issues.

Class I Area Summary Tables – Pasayten Wilderness

	Class I Area Visibility Summary: Pasayten W, WA **Visibility Conditions:** Worst 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[1] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[1] (%)
Sulfate	8.06	1.7	6.32	7.82	-33,830 -39%	-16%	-18%
Nitrate	3.28	2.17	3.02	2.45	-174,838 -46%	-36%	-41%
Organic Carbon	21.9	5.91	17.12	22.18	2,178 4%	3%	10%
Elemental Carbon	3.32	0.55	2.61	3.53	-3,329 -25%	-14%	-33%
Fine Soil	0.82	0.81	0.81	0.82	8,216 23%	19%	23%
Coarse Material[2]	2.07	2.25	2.11	Not Applicable	40,184 38%	18%	25%
Sea Salt[2]	0.08	0.2	0.11		Not Applicable		
Total Light Extinction	49.53	23.59	41.66	48.95			
Deciview	15.23	8.25	13.60	15.09			

WRAP TSS - 1/9/2009

1) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
2) Visibility projections not available due to model performance issues.

	Class I Area Visibility Summary: Pasayten W, WA **Visibility Conditions:** Best 20% Days **RRF Calculation Method:** Specific Days (EPA) **Emissions Scenarios:** 2000-04 Baseline (plan02d) & 2018 PRP (prp18a)						
	Monitored	**Estimated**		**Projected**			
	2000-04 Baseline Conditions (Mm-1)	2064 Natural Conditions (Mm-1)	2018 Uniform Rate of Progress Target (Mm-1)[1]	2018 Projected Visibility Conditions (Mm-1)	Baseline to 2018 Change In Statewide Emissions (tons / %)	Baseline to 2018 Change In Upwind Weighted Emissions[2] (%)	Baseline to 2018 Change In Anthropogenic Upwind Weighted Emissions[2] (%)
Sulfate	1.54	0.39	Not Applicable	1.09	-33,830 -39%	-30%	-33%
Nitrate	0.54	0.34	Not Applicable	0.24	-174,838 -46%	-42%	-47%
Organic Carbon	0.54	0.2	Not Applicable	0.36	2,178 4%	2%	6%
Elemental Carbon	0.21	0.04	Not Applicable	0.1	-3,329 -25%	-20%	-37%
Fine Soil	0.07	0.07	Not Applicable	0.03	8,216 23%	17%	20%
Coarse Material[3]	0.16	0.14	Not Applicable	Not Applicable	40,184 38%	19%	26%
Sea Salt[3]	0.12	0.06	Not Applicable		Not Applicable		
Total Light Extinction	13.18	11.24	Not Applicable	12.10			
Deciview	2.73	1.16	Not Applicable	1.89			

WRAP TSS - 1/9/2009

1) 2018 Uniform Rate of Progress Target for Best 20% Days is not defined.
2) Results based on Weighted Emissions Potential analysis using the 2000-04 Baseline (plan02d) & 2018 PRP (prp18a) emissions scenarios.
3) Visibility projections not available due to model performance issues.