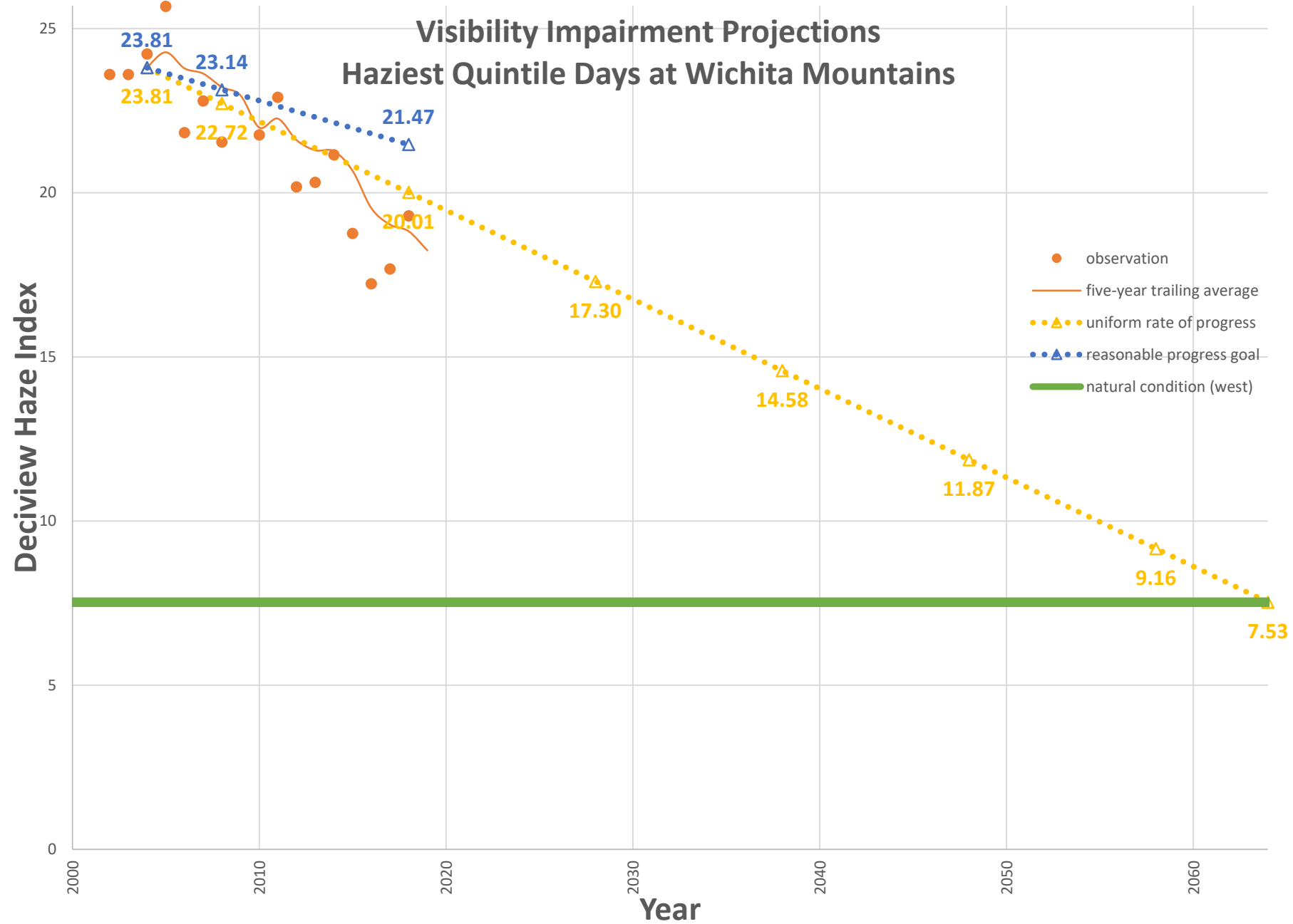


Regional Haze SIP Development Update

Presented by Cooper Garbe, DEQ, Air Quality Rules and Planning

Air Quality Advisory Council Meeting

June 17, 2020



Review and background

- At January AQAC we presented:
 - Positive progress toward improving visibility at the WMWA
 - SO₂ reductions means NOx contributes a greater percentage to impairment
 - Source specific analysis and evaluations were to begin
- DEQ must develop a long-term strategy for meeting a “reasonable” progress goal for this planning period (Round 2)
 - Emission control for period ending 2028 must be considered using four factors.

4-factor analysis

- Regulatory requirement to consider:
 - The cost of compliance
 - The time necessary for compliance
 - The energy and non-air quality environmental impacts of compliance
 - The remaining useful life of any potentially affected source
- What sources will DEQ consider:
 - Methodology developed using Ramboll study commissioned by CenSARA

NOx Analysis

Facility	Q/D - NOx		% EWRT*Q/d		
MUSKOGEE GNRTNG STA	19.56164	BART			
SOONER GNRTNG STA	11.98438	BART			
PSO SOUTHWESTERN PWR STA	10.3934	BART			
CHITWOOD GAS PLT	10.20981	→	1.49%	→	4-factor
MAYSVILLE GAS PLT	9.420284	→	1.00%	→	4-factor
BINGER PLT	8.838011	→	2.67%	→	4-factor
LINDSAY BOOSTER STA	8.798333	→	0.93%	→	4-factor
SEMINOLE GNRTNG STA	8.694886	BART			
ALTUS AFB	7.46931	Airport			
HUGO GNRTNG STA	7.181259	→	0.13%		
Frederick Muni	6.858501	Airport			
PSO NORTHEASTERN PWR STA	6.779603	BART			
GRAND RIVER ENGRY CTR	6.599336	→	0.24%		
IP VALLIANT PAPER MILL	6.411024	→	0.12%		
PRYOR CEMENT FACLT	6.027821	→	0.22%		
MUSTANG GNRTNG STA	5.984149	→	0.82%	→	4-factor
CASHION STA	5.602299	→	0.69%	→	4-factor
ADA PLANT	5.247147	→	0.38%		
HORSESHOE LAKE GNRTNG STA	5.233127	→	0.54%	→	4-factor
MUSKOGEE MILL	5.032026	→	0.17%		

SOx Analysis

Facility	Q/D - SO2		% EWRT*Q/d		
KREMLIN	59.45982	→	8.06	→	4-factor
MUSKOGEE GNRTNG STA	53.90887	BART	-		
SOONER GNRTNG STA	46.34065	BART	-		
GRAND RIVER ENGRY CTR	25.78439	→	3.17	→	4-factor
HUGO GNRTNG STA	22.70217	→	3.39	→	4-factor
PSO NORTHEASTERN PWR STA	12.55256	BART	-		
ADA PLANT	12.00789	→	1.43	→	4-factor
CARBON BLACK PRODUCTION FACILITY	10.42704	→	1.18	→	4-factor
MUSKOGEE MILL	5.799093	→	0.410		
COGENERATION PLT	5.120371	→	0.447		

Oklahoma sources for 4-factor analysis

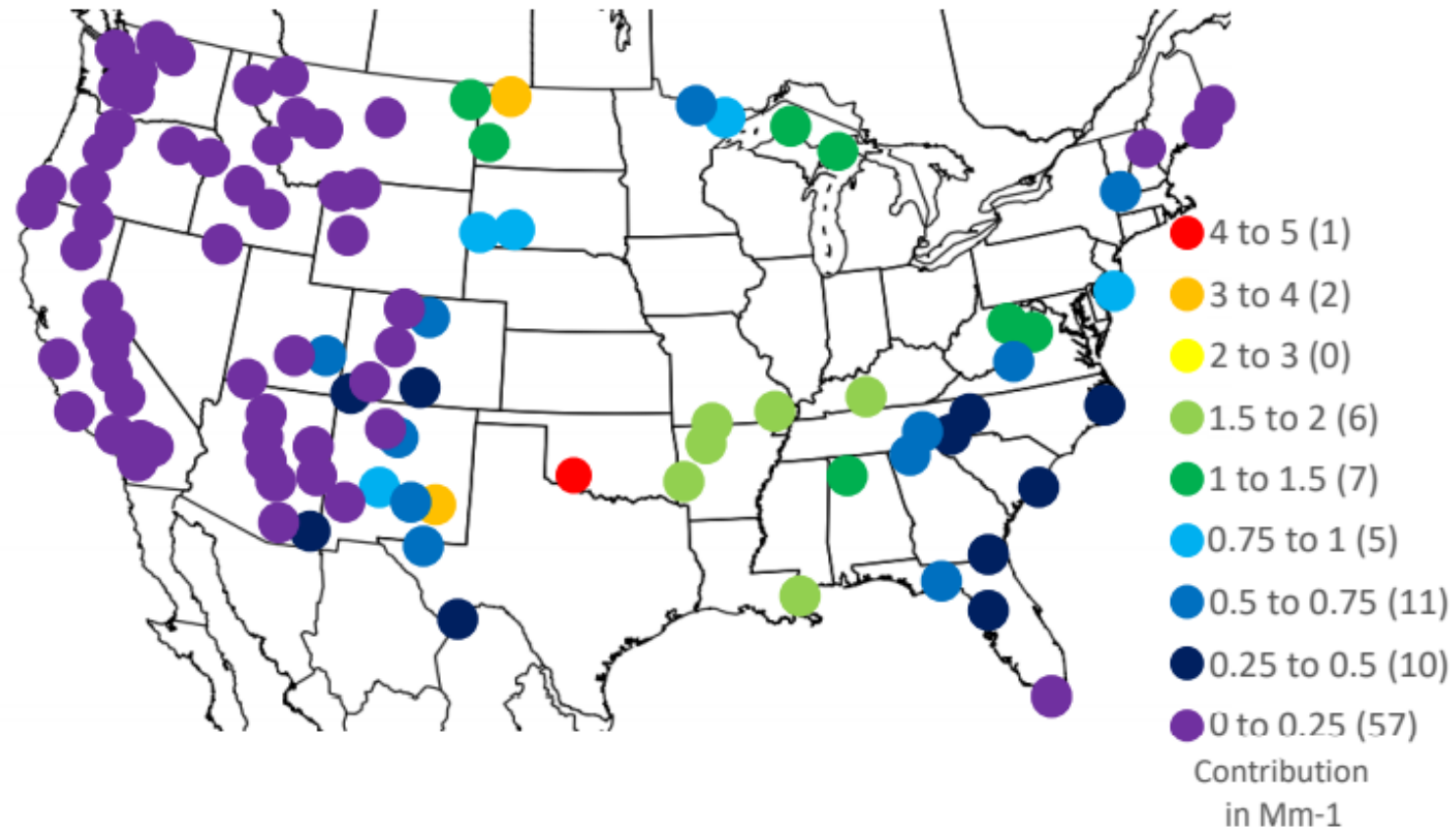
SO_x

- Kremlin
- GRDA
- Hugo PP
- Ada Cement Plant
- Carbon Black - Ponca

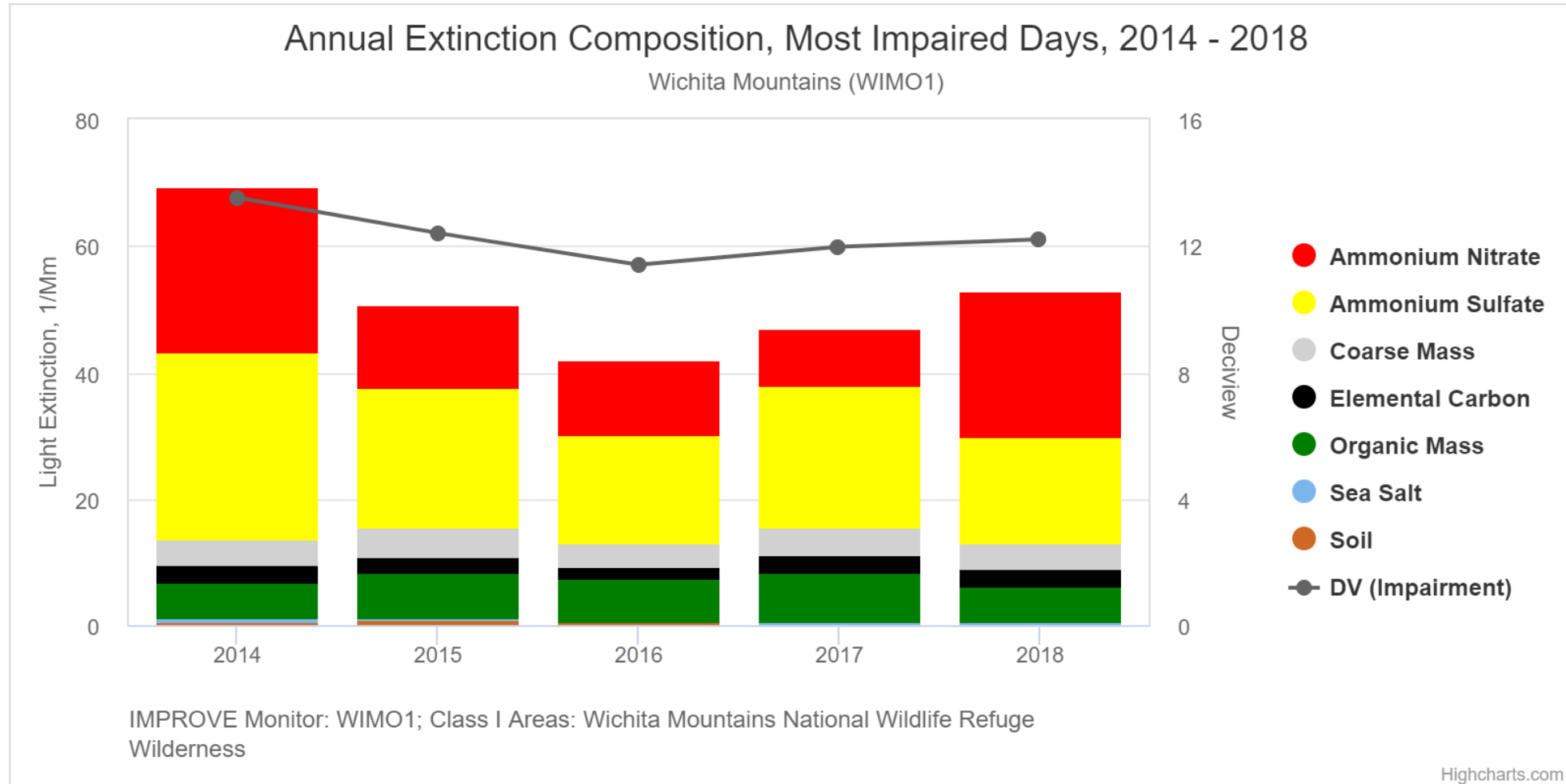
NO_x

- Binger Gas Plant
- Chitwood Gas Plant
- Maysville Gas Plant
- Mustang PP
- Horseshoe Lake PP
- Lindsay Booster Station
- Cashion Station

Modeled 2028 Oil and Gas Visibility Contribution (20% Most Impaired Days) in Mm-1

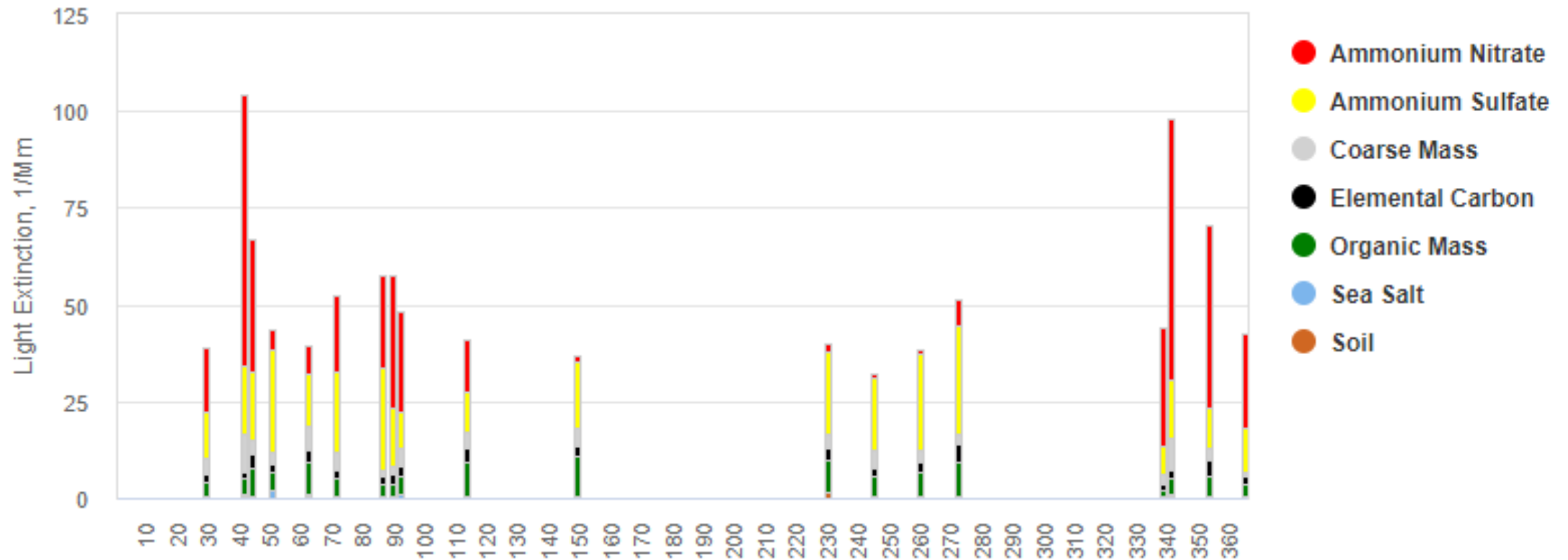


IMPROVE Data



Daily Extinction Composition, Most Impaired Days, 2018

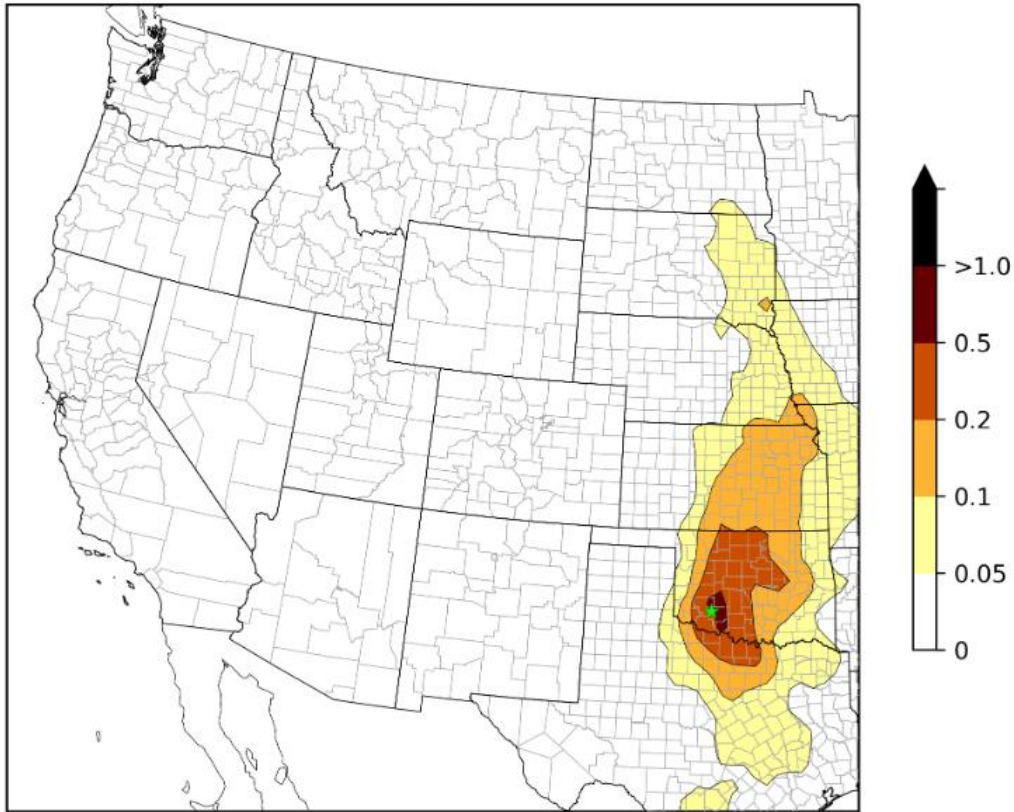
Wichita Mountains (WIMO1)



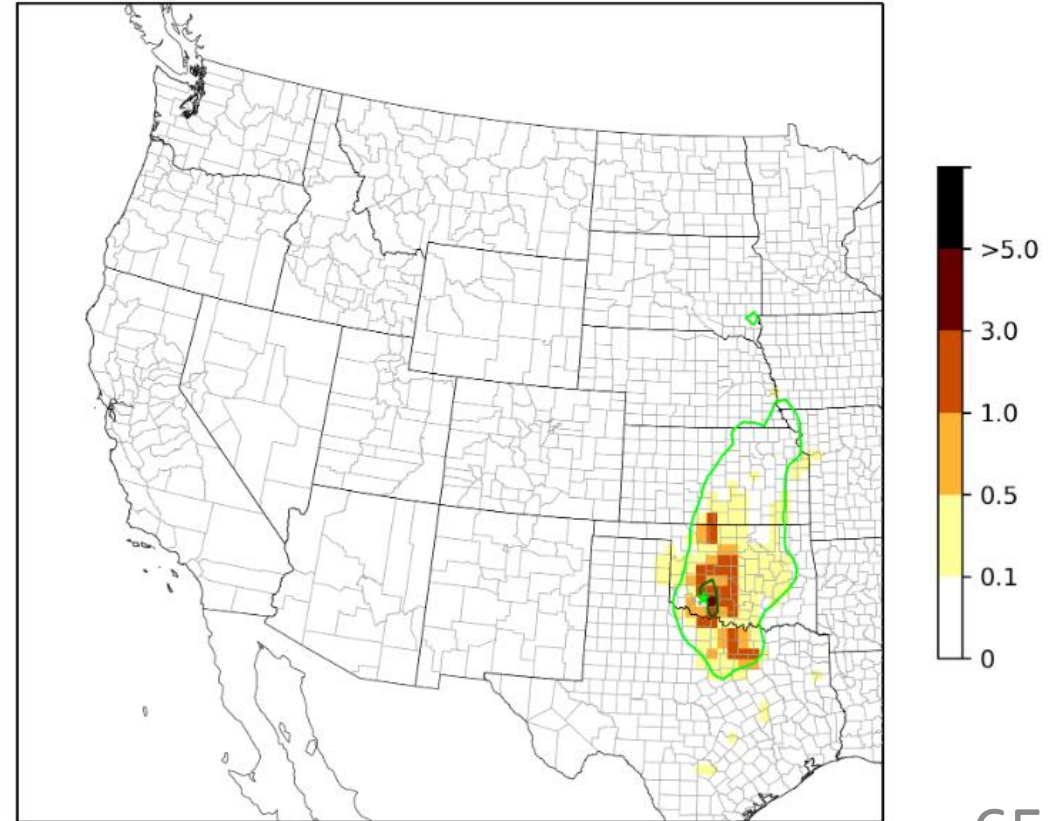
IMPROVE Monitor: WIMO1; Class I Areas: Wichita Mountains National Wildlife Refuge Wilderness

Area of Influence (AOI) Study

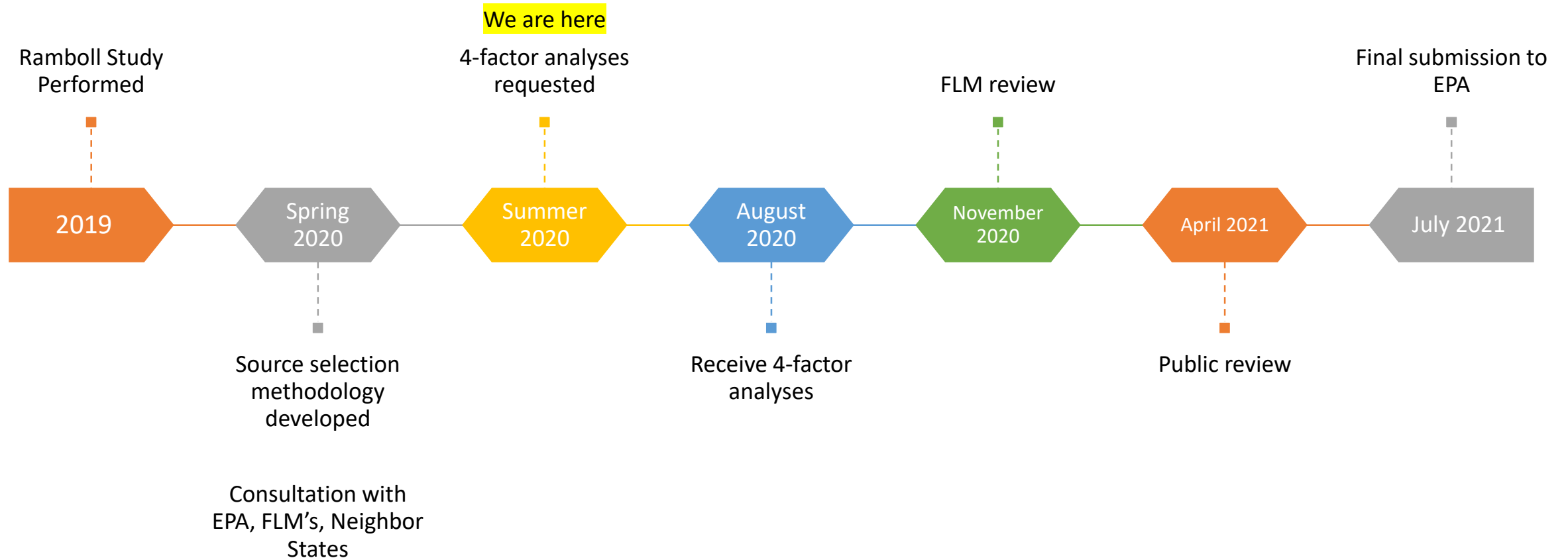
WIMO1 - 20% Most Impaired Days
All Amm_NO3 Extinction Weighted Residence Times (%)



WIMO1 - 20% Most Impaired Days All - EWRT
AREA NOx Emission Weighted Distance (%)



Timeline



Conclusion

- OK DEQ source selection methodology results in 12 facilities requiring a 4-factor analysis (5 for SO_x and 7 for NO_x)
- Further analysis of NO_x contributions to visibility impairment will be necessary.
- NPCA, Sierra Club, *et al.*, filed a petition for reconsideration of EPA's guidance.