



STATE AIR QUALITY UPDATE

VALLEY AIRNOW MEETING

March 1, 2006



Air Quality Update - Topics

- Eight-hour Ozone Status
- Fine Particulate Matter Status
- Visibility Improvement

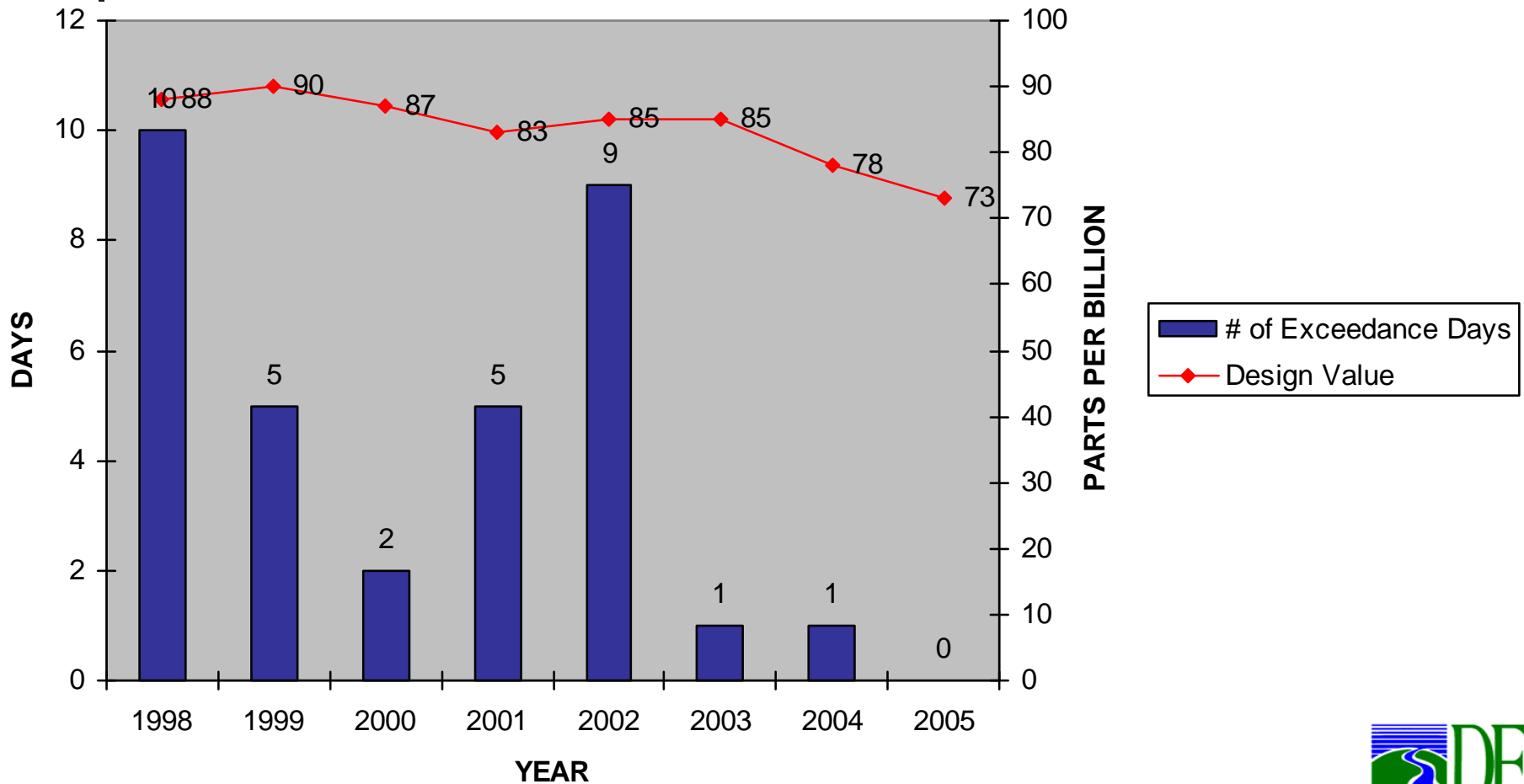
Eight-Hour Ozone Standard

NSV Ozone Trends

YEAR	# OF EXCEEDANCE	3-YEAR DESIGN VALUE
1998	10	88 Parts Per Billion (PPB)
1999	5	90 PPB
2000	2	87 PPB
2001	5	83 PPB
2002	9	85 PPB
2003	1	85 PPB
2004	1	78 PPB
2005	0	73 PPB

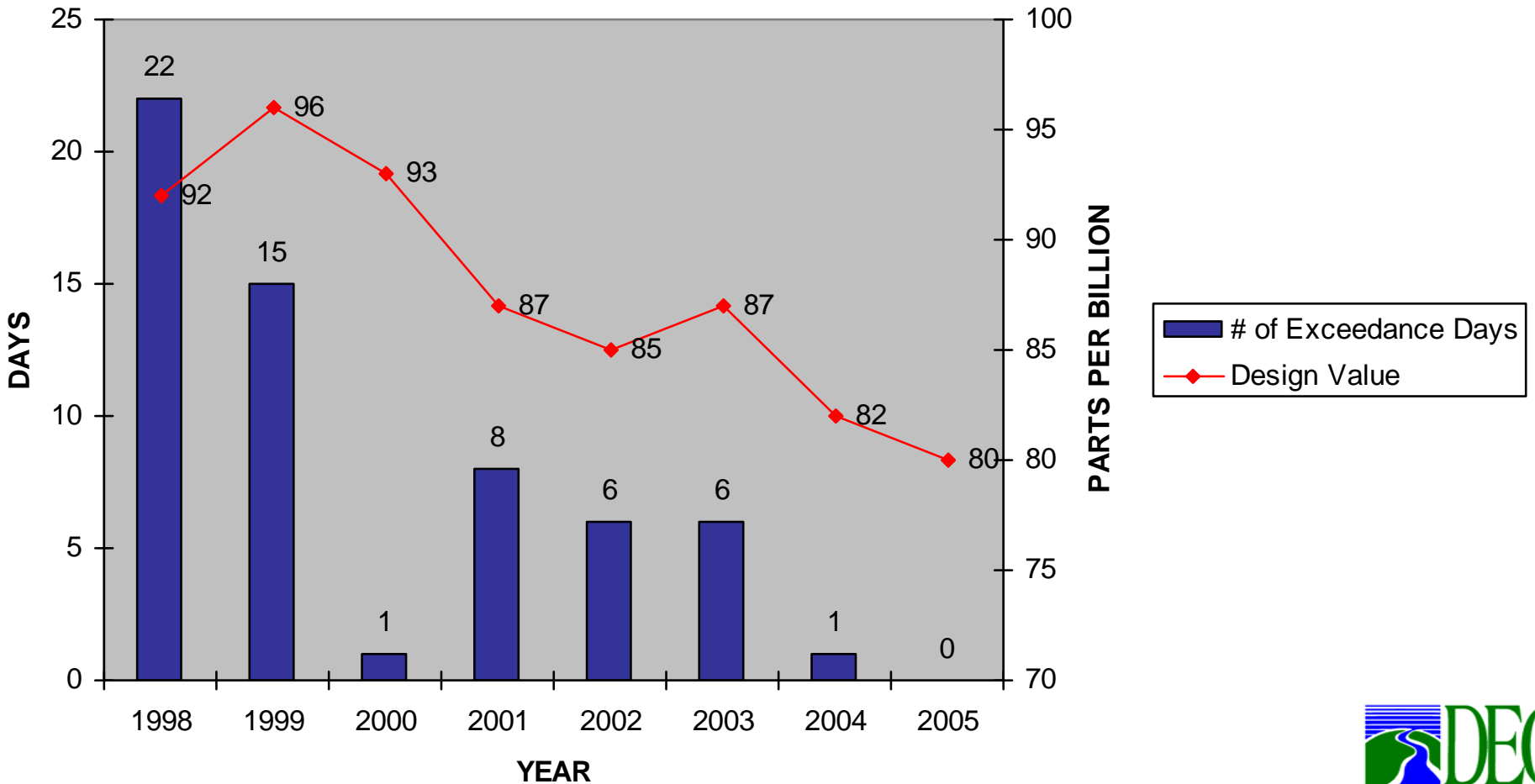
Eight-Hour Ozone Standard

NSV Ozone Trends



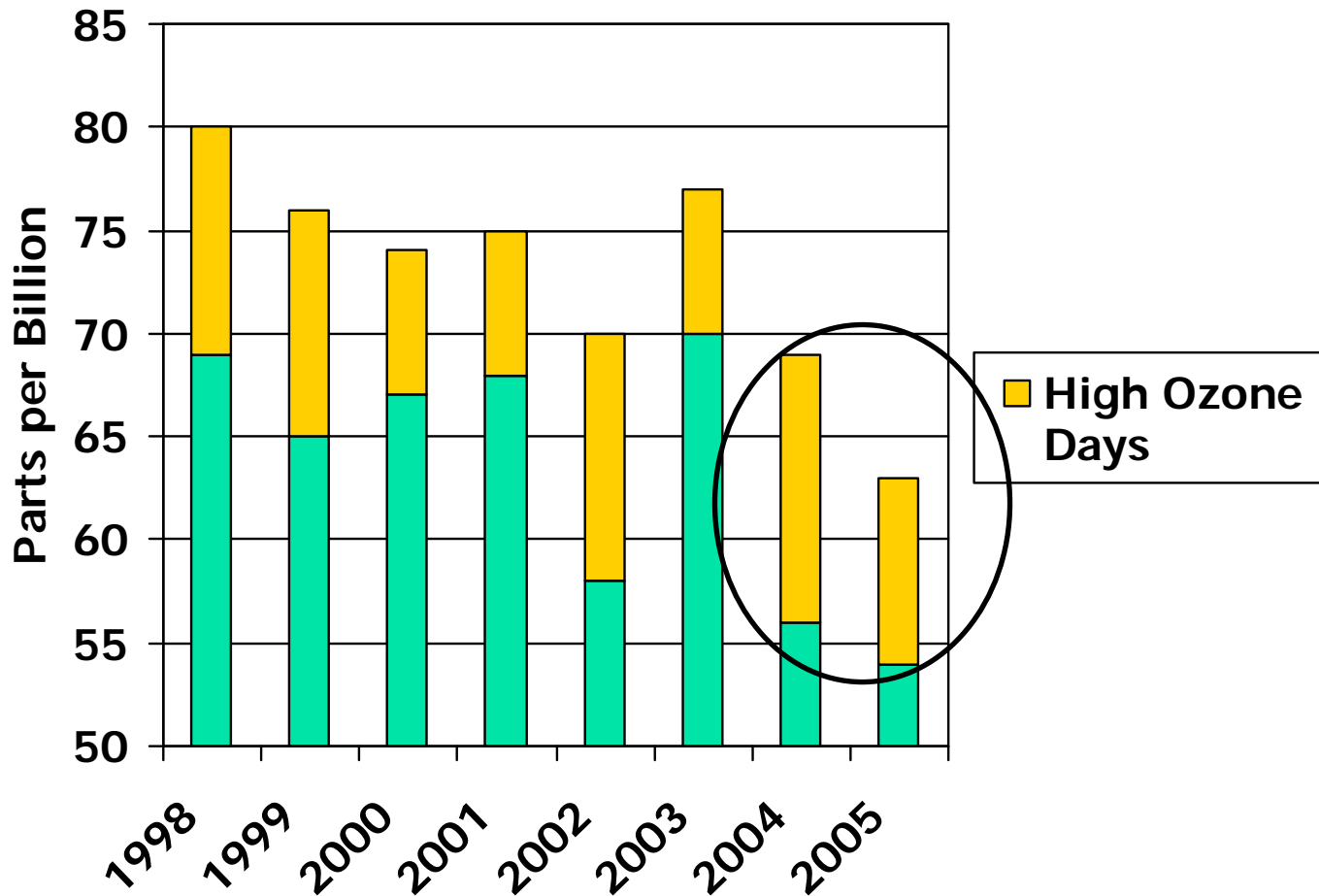
Eight-Hour Ozone Standard

Big Meadows (SNP) Ozone Trends



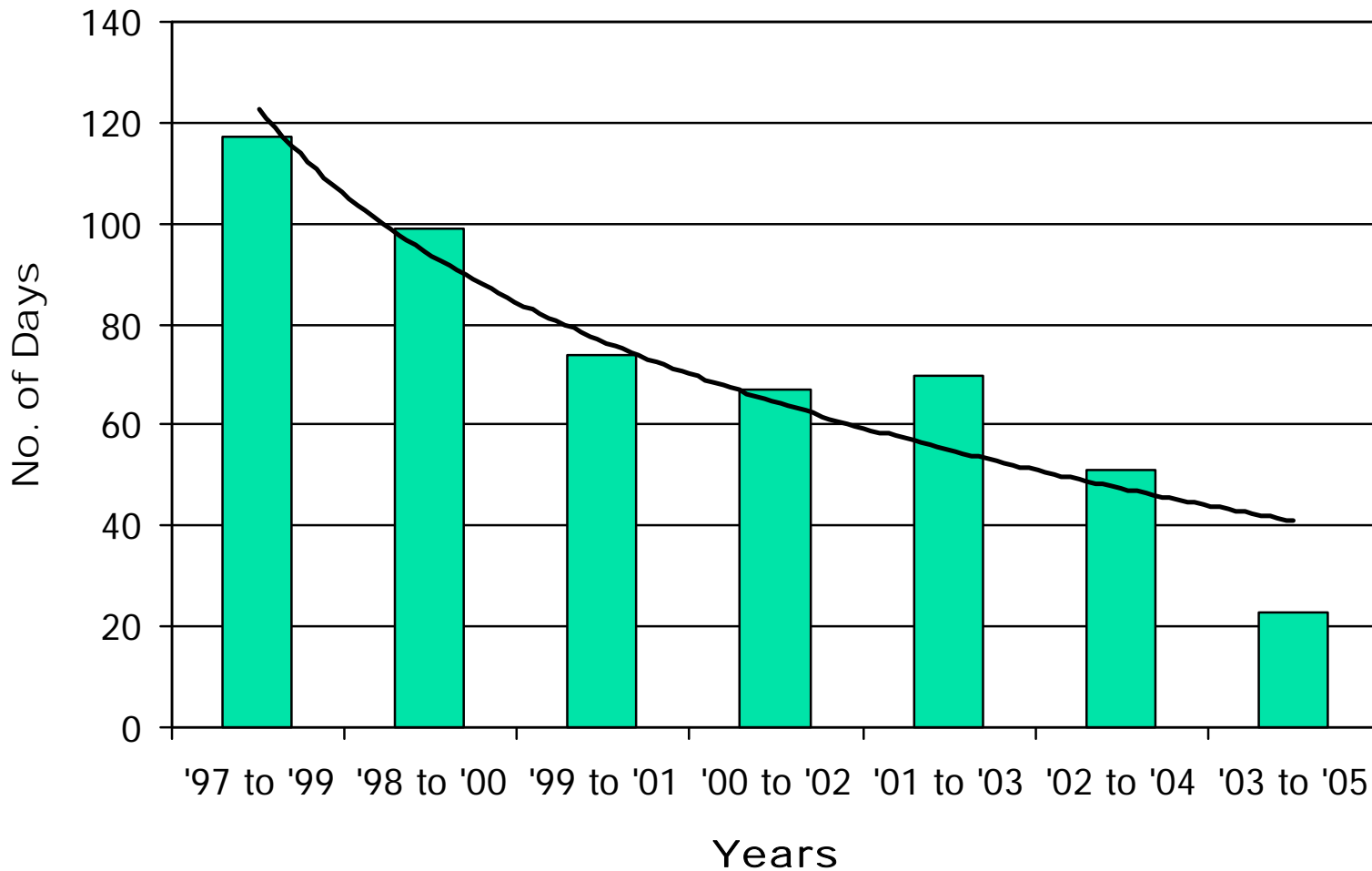
Eight-Hour Ozone Standard *Reduction in Transported Ozone*

Readings at Big Meadows SNP Monitor during high ozone days



Eight-Hour Ozone Standard

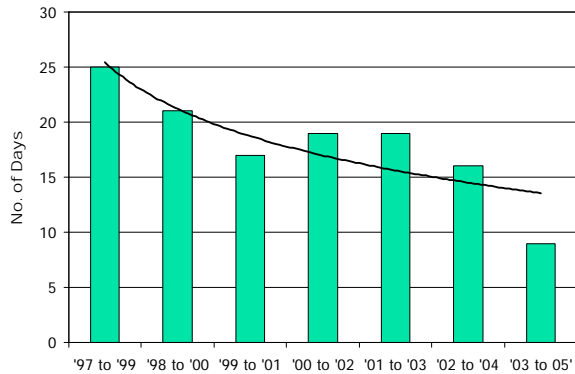
Improving Air Quality -Statewide



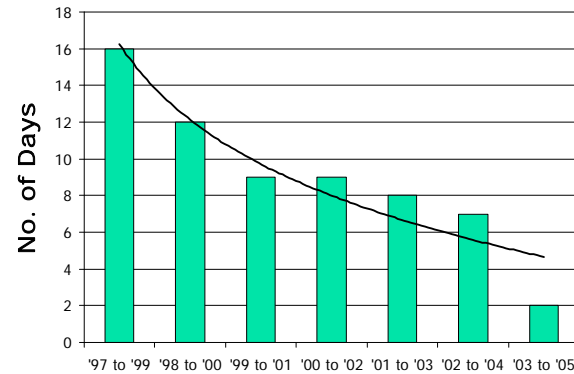
Eight-Hour Ozone Standard

Improving Air Quality – Selected Areas

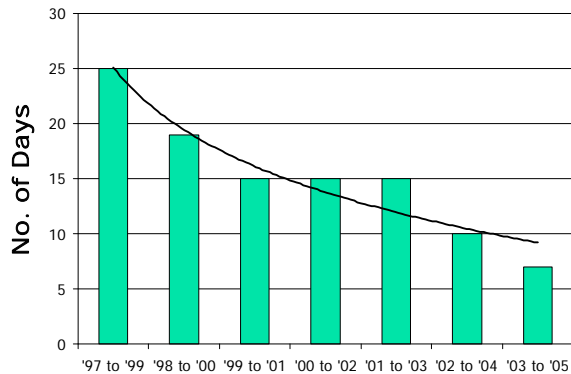
Northern VA



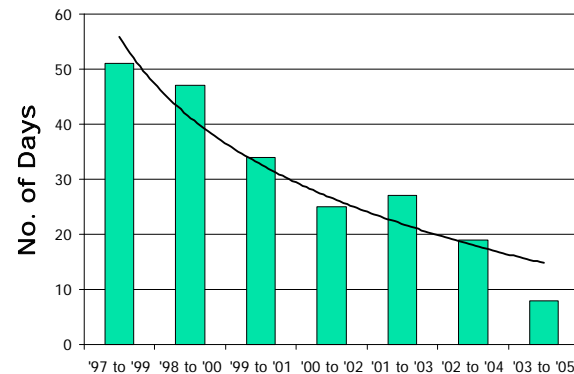
Tidewater



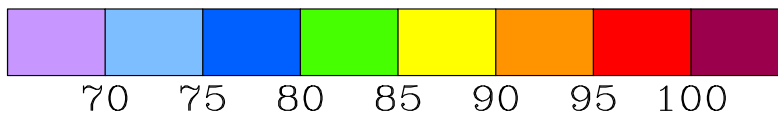
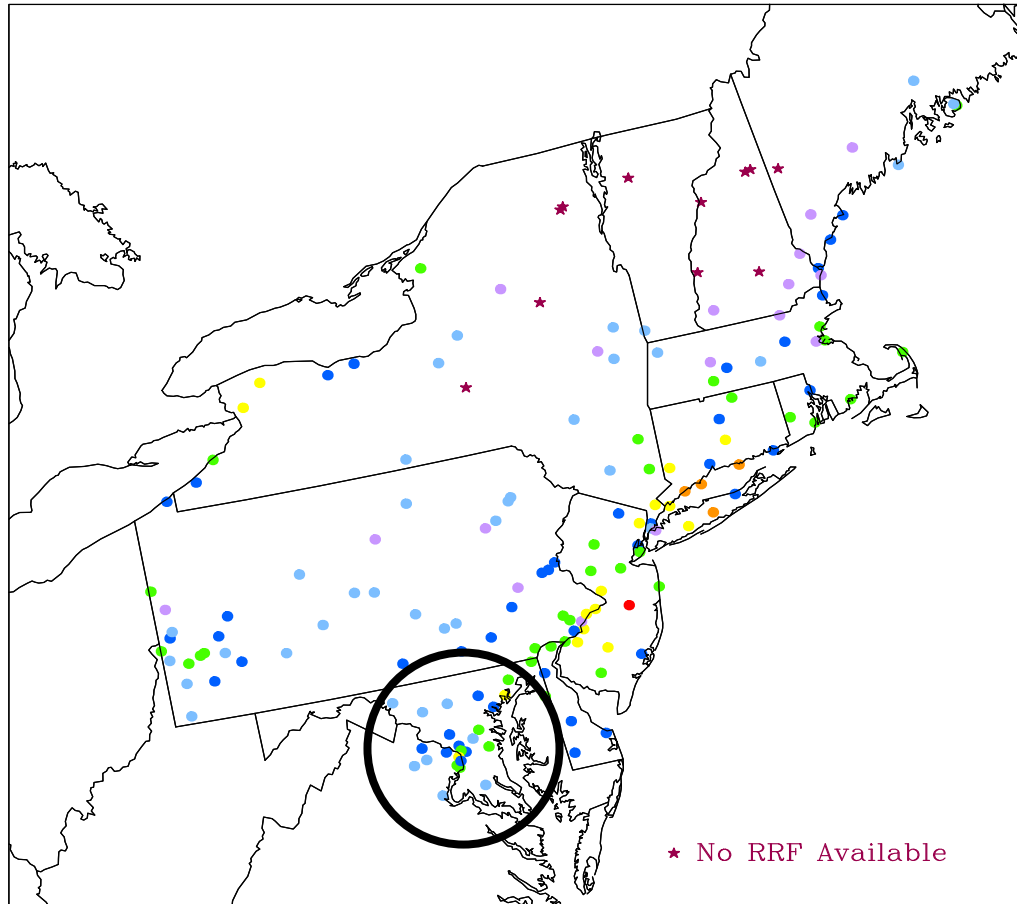
Richmond



Rest of VA



Eight-Hour Ozone Standard *Preliminary 2009 Modeling Results*





Eight-Hour Ozone Standard

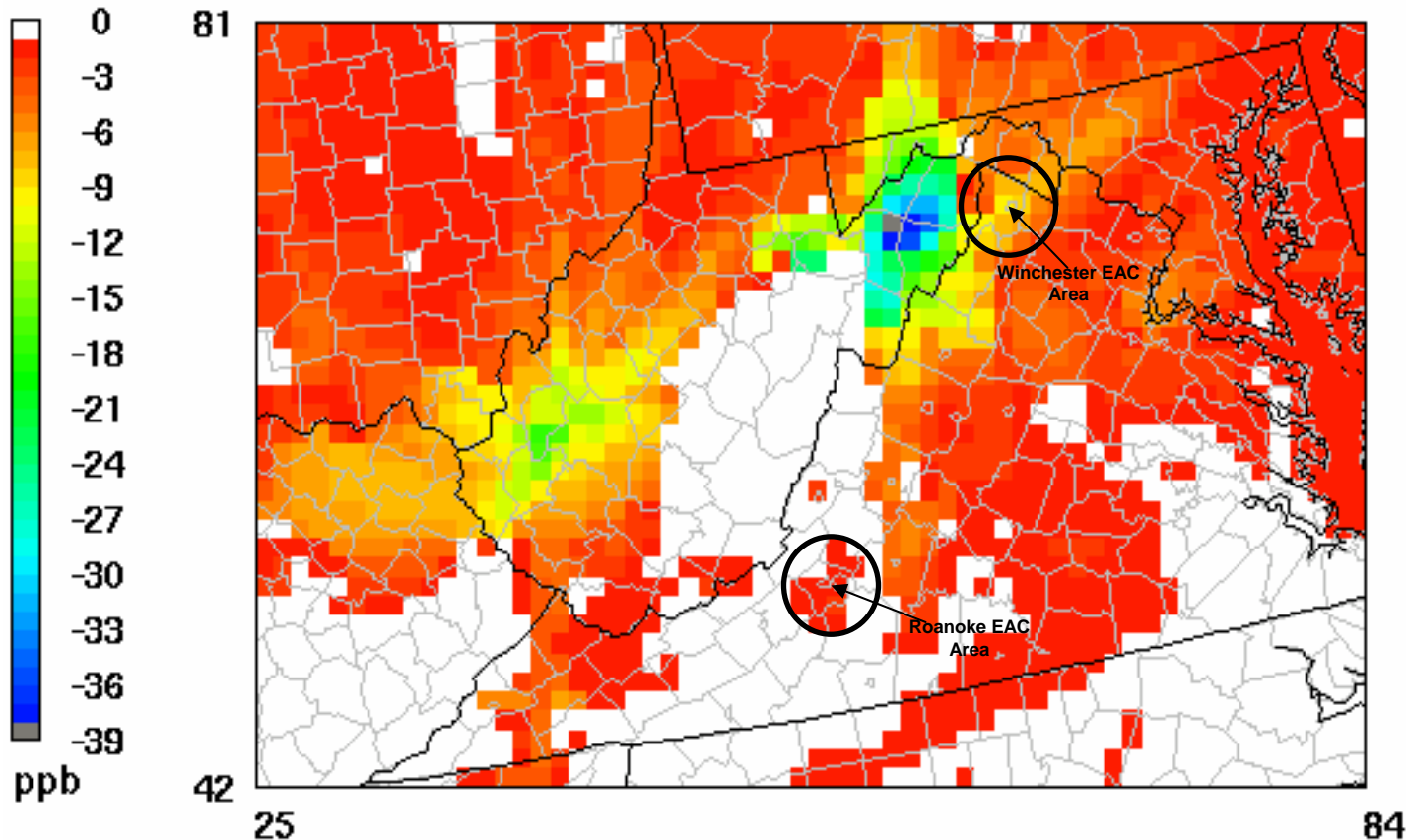
Emissions Reduction Programs

- Regional transport reductions – Utility NO_x controls
- Federal motor vehicle standards
 - Tier 2 vehicle standards
 - Heavy duty truck standards
- Nonroad engine standards
 - Small engines
 - Heavy duty diesel Equipment

Eight-Hour Ozone Standard

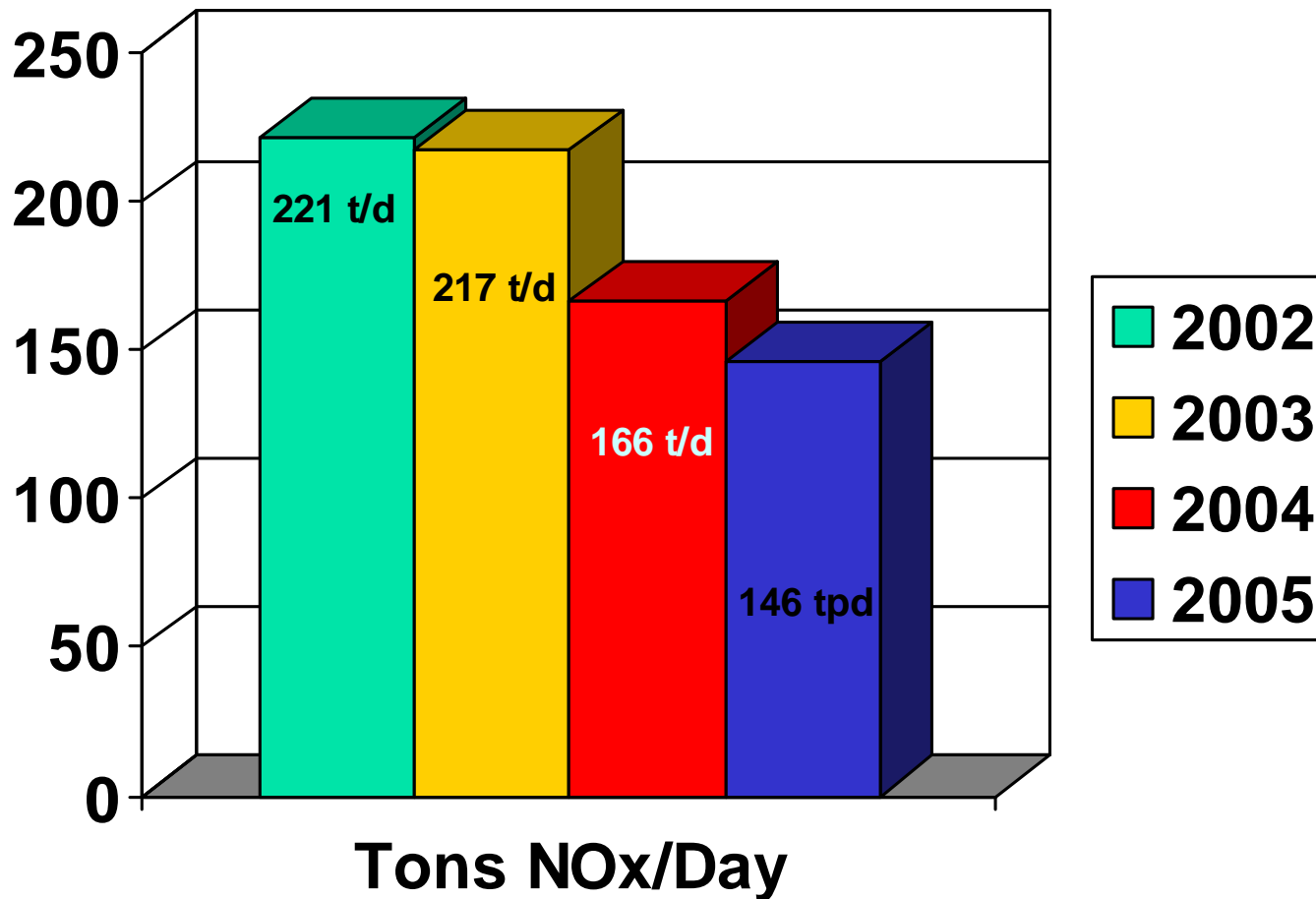
Impact of Local Power Plant Reductions

8hr O3 Average, threshold 70 ppb
a=chain.sip04, b=chain.sip05



Eight-Hour Ozone Standard

Utility NO_x Reductions in VA





Fine Particulate Matter Standard

Air Quality Update

■ Air Quality Status

- Very small particles – 2.5 microns and less
- Multi-pollutant problem – primary & secondary particles
- Main cause – Sulfates, nitrates & organic carbon
- No violating monitors in VA - trend is stagnant
- Northern VA - part of DC nonattainment area
- EPA modeling predicts compliance in DC area by 2009

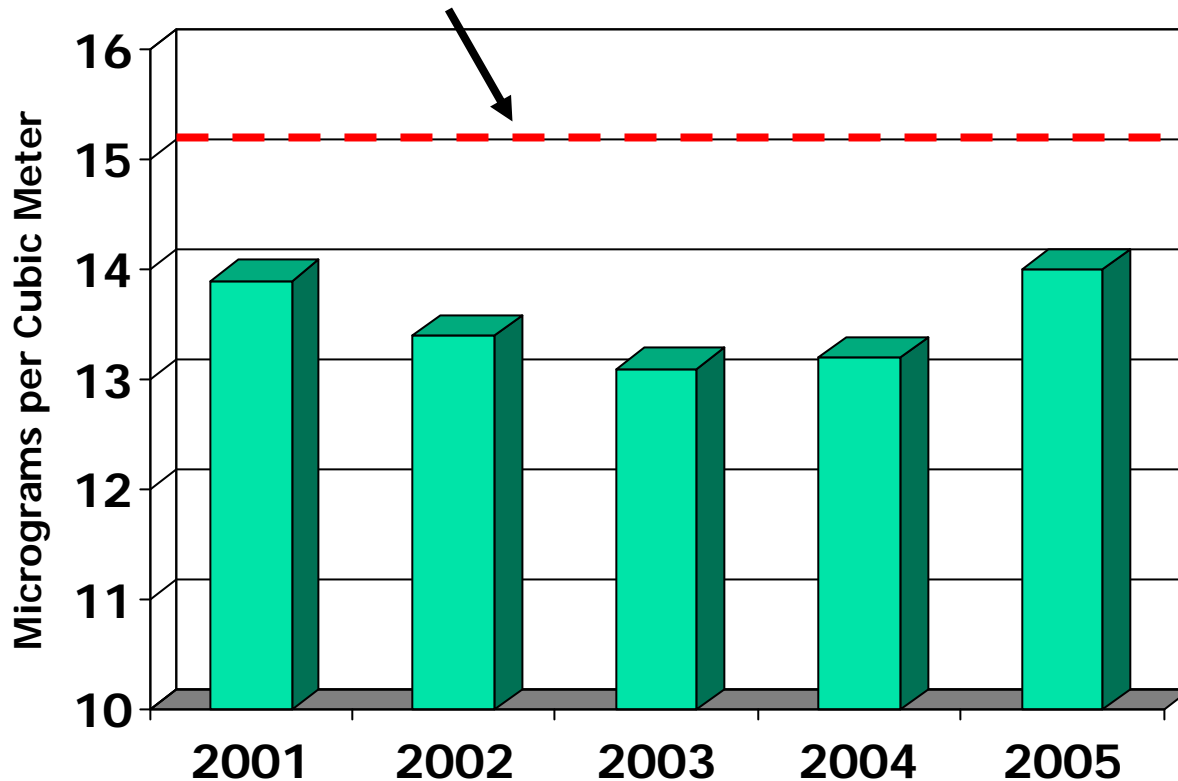
■ Clean Air Interstate Rule (CAIR)

- Reduction in transport & formation of secondary particles
- Big regional utility SO₂ reductions beginning in 2009
- Further reductions in 2018
- Lesser reductions in NO_x

Fine Particulate Matter Standard

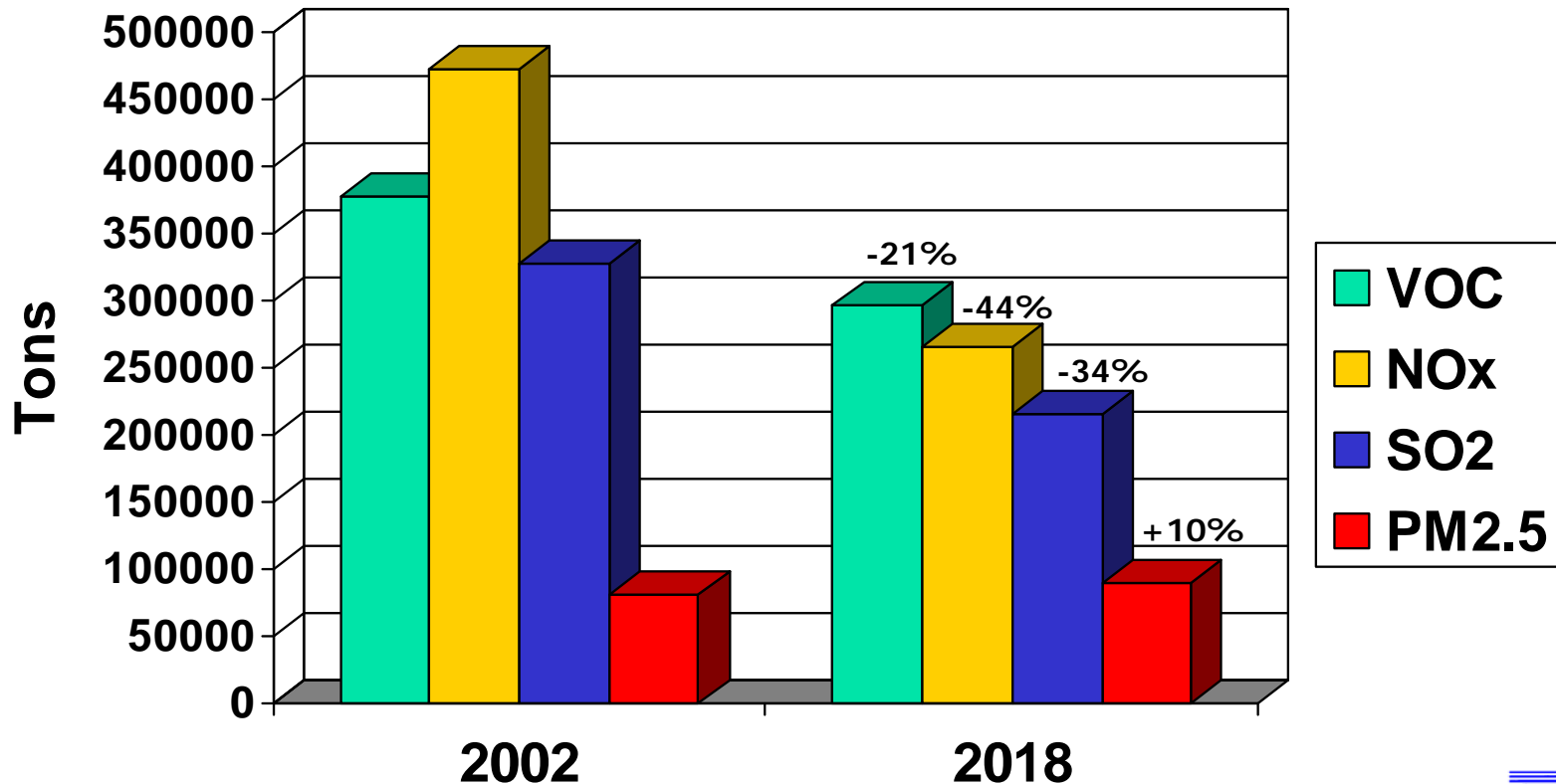
Less Monitored Progress -Statewide

Annual Standard – 15 micrograms per cubic meter



Emissions Reduction Predictions

Total VA Emissions – 2002 and 2018





Visibility Improvement Program

Current Planning Activities

- Program to improve regional visibility
 - Goal – achieve natural conditions by 2064
 - VA Class I areas - Shenandoah NP & James River Face
 - Mainly a sulfate (SO₂) problem in the eastern US
- Regional planning approach
 - VISTAS regional planning organization – ten southeast states
 - Rate of Progress (RFP) & BART requirements
 - Main improvement to come from CAIR SO₂ reductions
- Schedule
 - SIP submission due in 2008 (then updates every ten years)

Visibility Improvement Program

Predicted Improvement - Shenandoah

**Uniform Rate of Progress Glide Path
Shenandoah NP (VA) - 20% Worst Days**

