

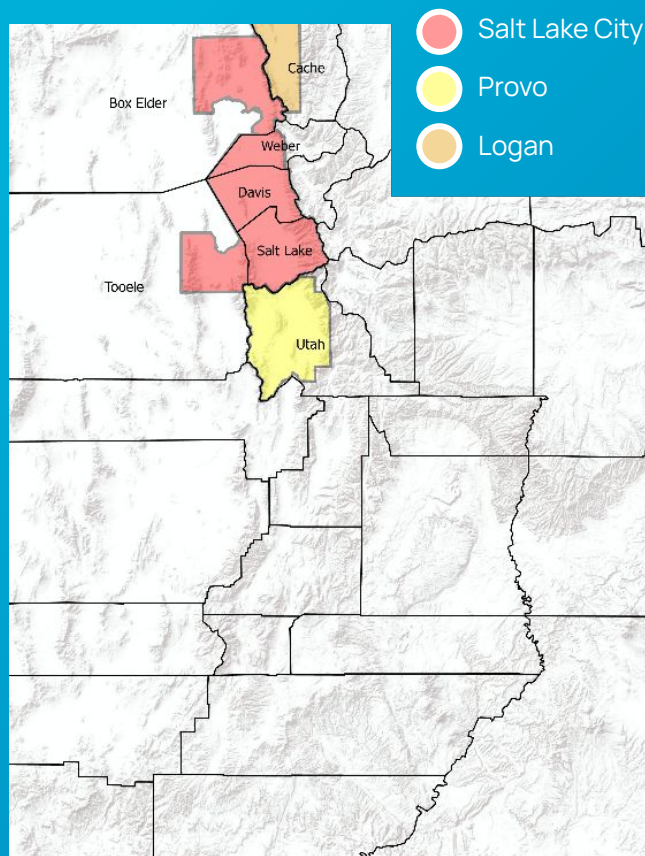
# — Uinta Basin Wintertime Ozone & NAAQS Priorities

AAPCA 2022 SPRING MEETING  
**Sheila Vance**



UTAH DEPARTMENT of  
ENVIRONMENTAL QUALITY  
**AIR  
QUALITY**

# PM<sub>2.5</sub> Nonattainment Areas



## PM<sub>2.5</sub>

All PM<sub>2.5</sub> NAA have attained the 24-hr NAAQS at  $35\mu\text{g}/\text{m}^3$  by the attainment date

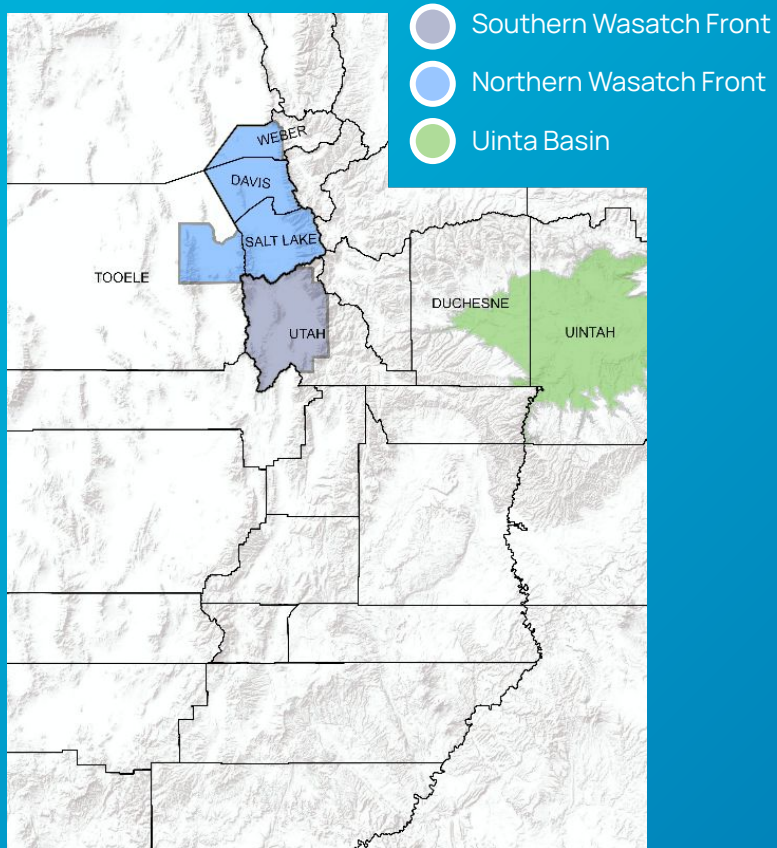
## Redesignation Status

**Logan:** Redesignated June 2021 and in 1st of two 10-year maintenance periods

**Salt Lake:** Maintenance plan in review

**Provo:** Redesignation expected soon

# Ozone Nonattainment Areas



## Ozone

3 NAA in Utah for 2015 NAAQS  
at 70 ppb

## Status

**NWF:** Moderate

**SWF:** Marginal/Attained standard by  
attainment date

**UB:** Marginal/Second 1-year extension  
submitted

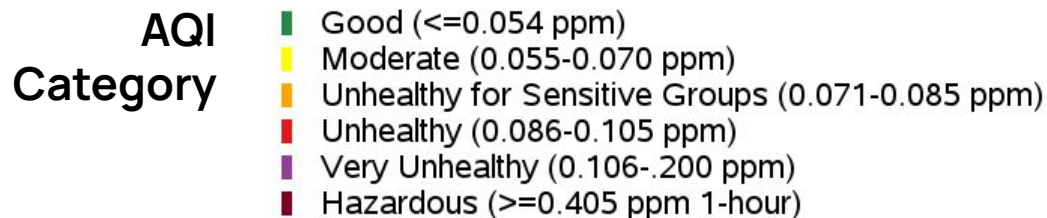
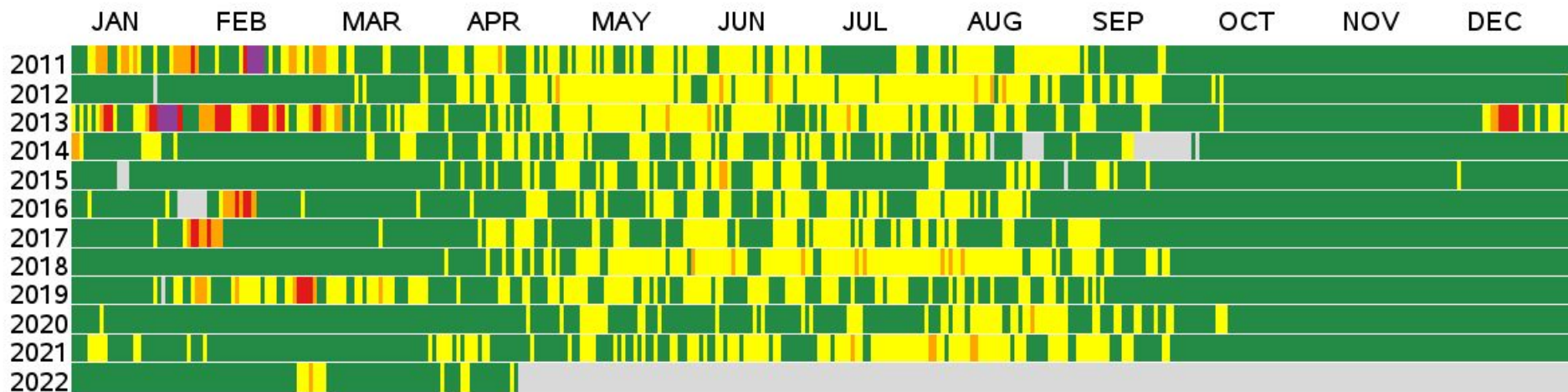
## – Regulatory Status

- Marginal Classification
- Did not attain by August 2021
- Met requirements for extension requests
- Proposed DAAD approved 1<sup>st</sup> year extension



## Ozone Daily AQI Values

Duchesne County, UT  
2011 to 2022



# Uinta Basin Wintertime Ozone



Unique Geography

Cold air inversion

Snow on ground reflects  
sunlight

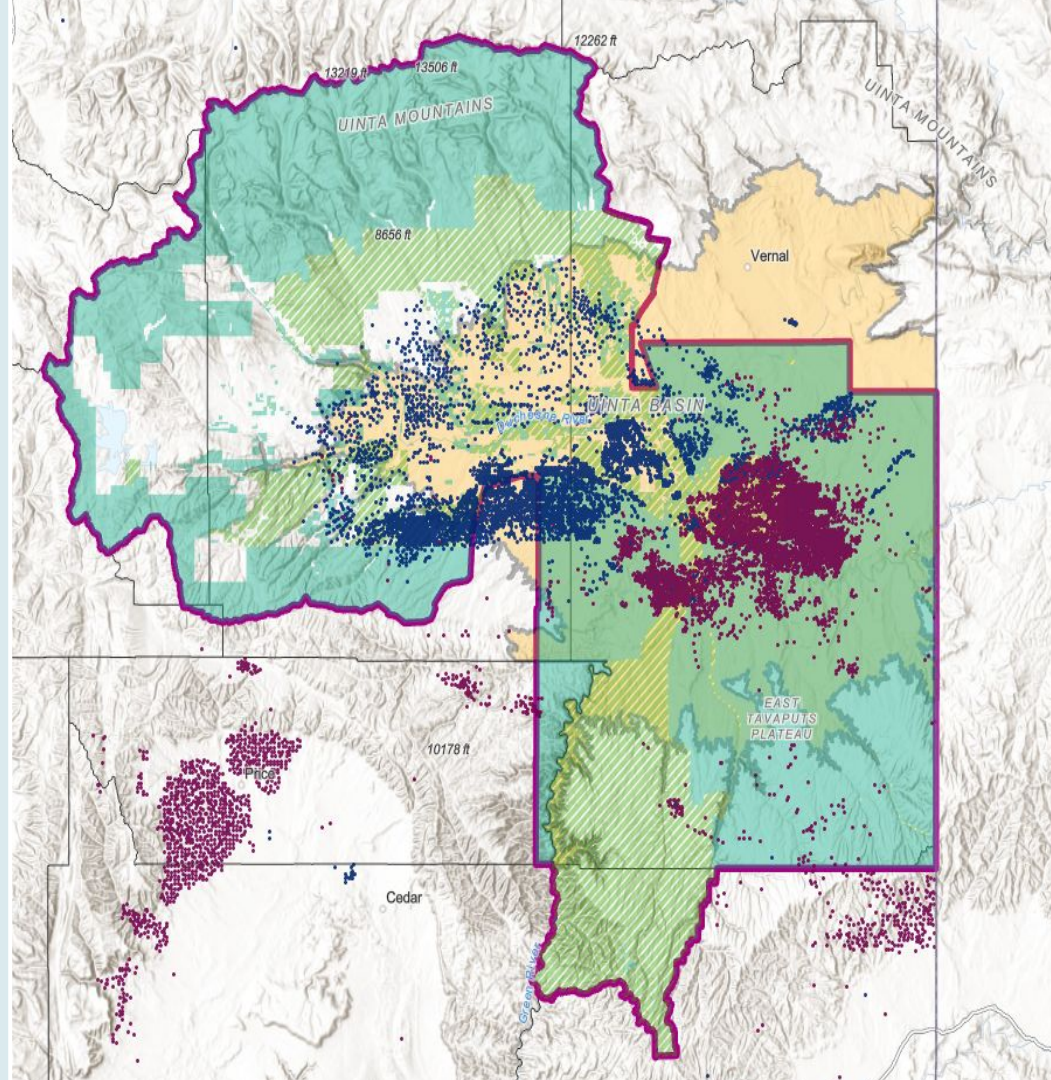
Rural area with dense oil and  
gas exploration & production

# Uintah Basin

## Complex Jurisdiction

NAA shared between EPA, Ute Tribe and Utah Division Air Quality

Different regulatory requirements between agencies



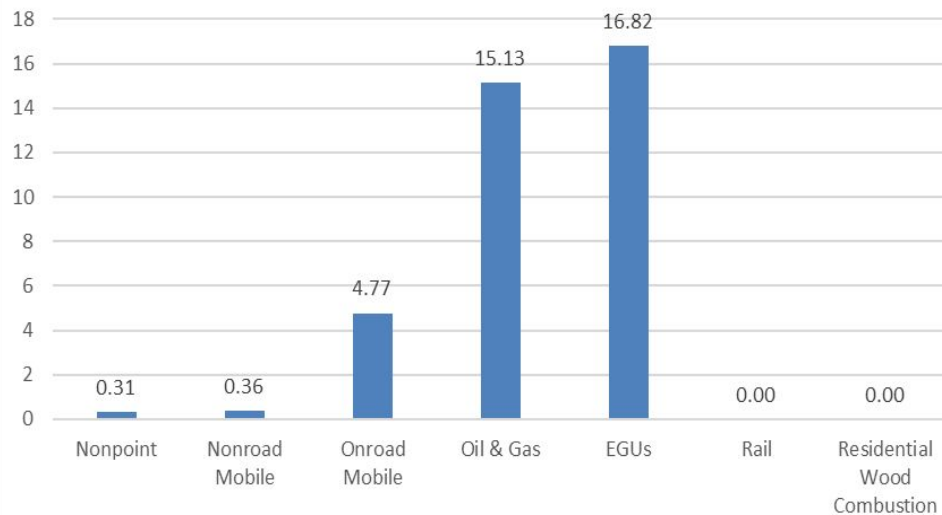
# UB 2017 Inventory

## Uinta Basin Nonattainment Area

### NOX tons per day

Representative O3 day: Feb 7 2013

Based on 2017 v1.90 OGI

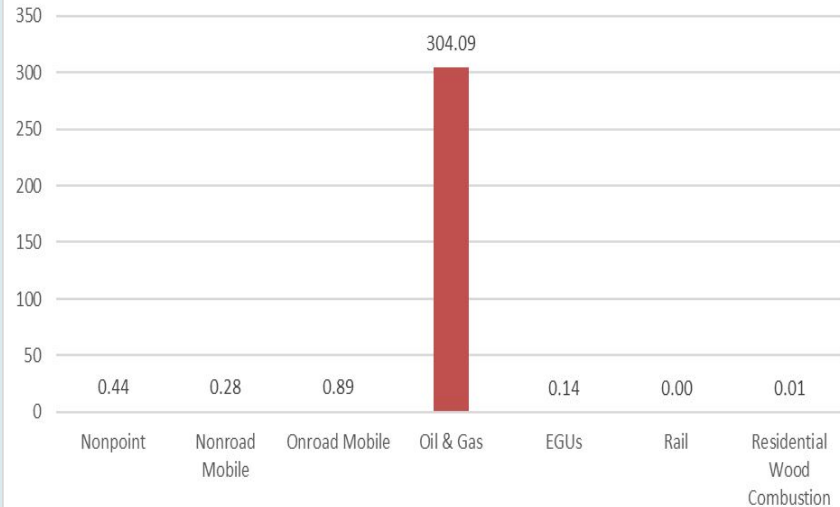


## Uinta Basin Nonattainment Area

### VOC tons per day

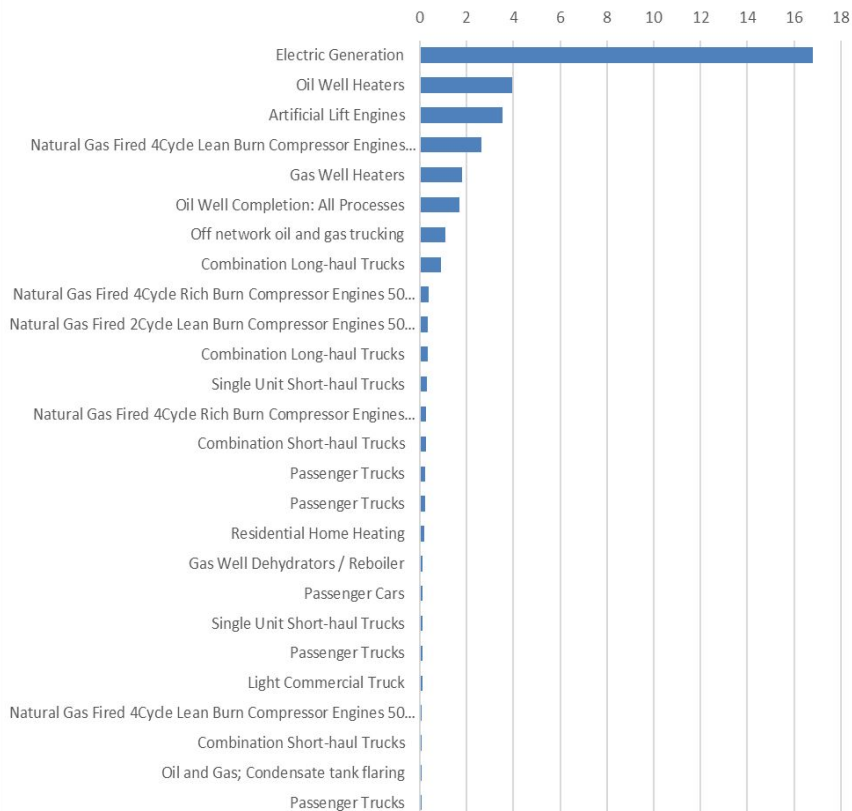
Representative O3 day: Feb 7 2013

Based on 2017 v1.90 OGI

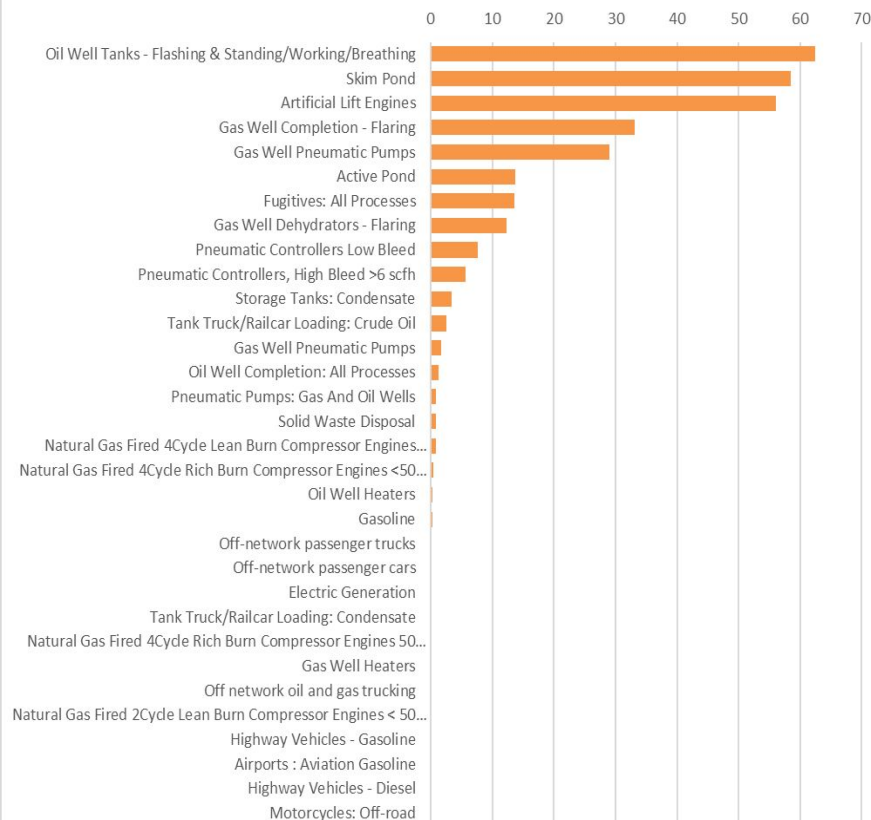


# UB 2017 Inventory

NOx tons per day (representative O3 day: February 7th 2013)



VOC tons per day (representative O3 day: February 7th 2013)





# Outstanding Science Questions



## Snow Chemistry

Interaction of snow with aerosols, formation and influence of reactive radical compounds (HONO) on ozone formation.



## Engine Emissions

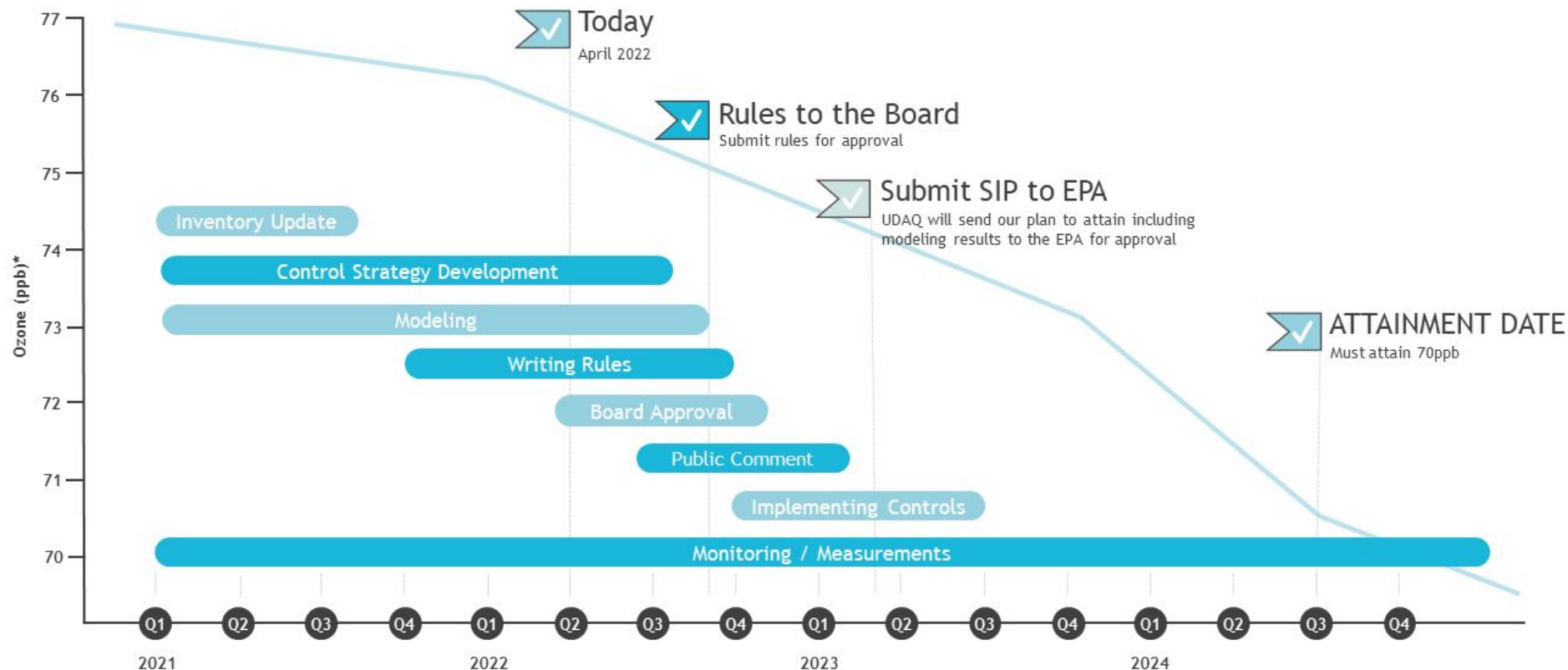
Data on emissions from smaller pumpjack engines, how to reduce emissions, alternatives to engines.



## NO<sub>x</sub>:VOC Sensitivity

Believe the Basin is NO<sub>x</sub> limited, however role and impact of reactive VOCs may be influential on ozone formation.

# Northern Wasatch Front Ozone SIP Timeline



\*These data are theoretical and do not represent actual measurements

# Priorities for Utah



**Focus on NWF**



**VOC Inventory and control strategies**



**Modeling performance evaluation and sensitivity testing**



**Public Outreach**

# Questions?



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