NMED
New Mexico Environment Department

CDPHE COLORADO
Department of Public Health & Environment

FOUR CORNERS AIR QUALITY TASK FORCE AND GROUP UPDATE

10/24/2018

Mark Jones and Lisa Devore
New Mexico Environment Department & Colorado Department of Public Health and Environment

Four Corners Air Quality Task Force and Group Update

Mark Jones - NMED and Lisa Devore - CDPHE

Oct 24, 2018

COLORADO
Department of Public Health & Environment

Outline

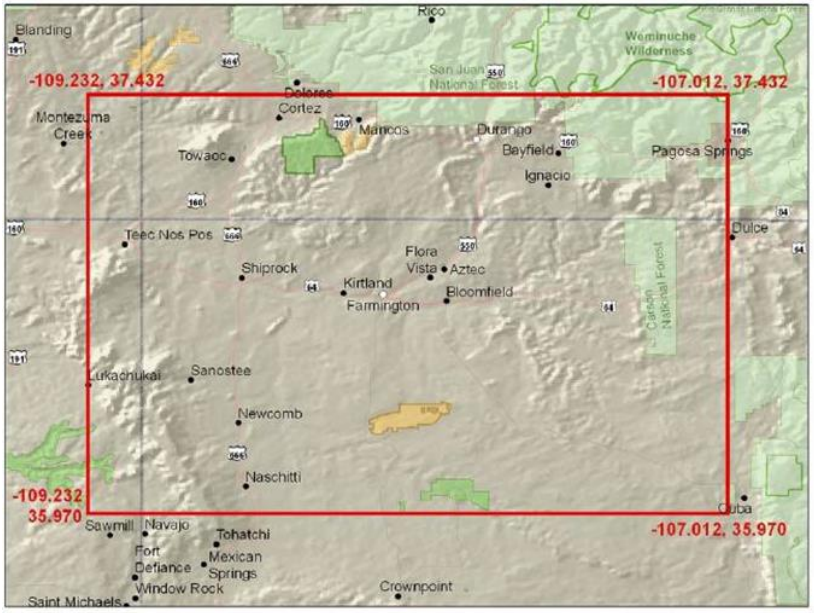
- History of Task Force/Group and Report
- Four Corners Emissions Sources and Studies
- Implemented Mitigation Options
- Next Steps

Four Corners Air Quality Task Force: Background

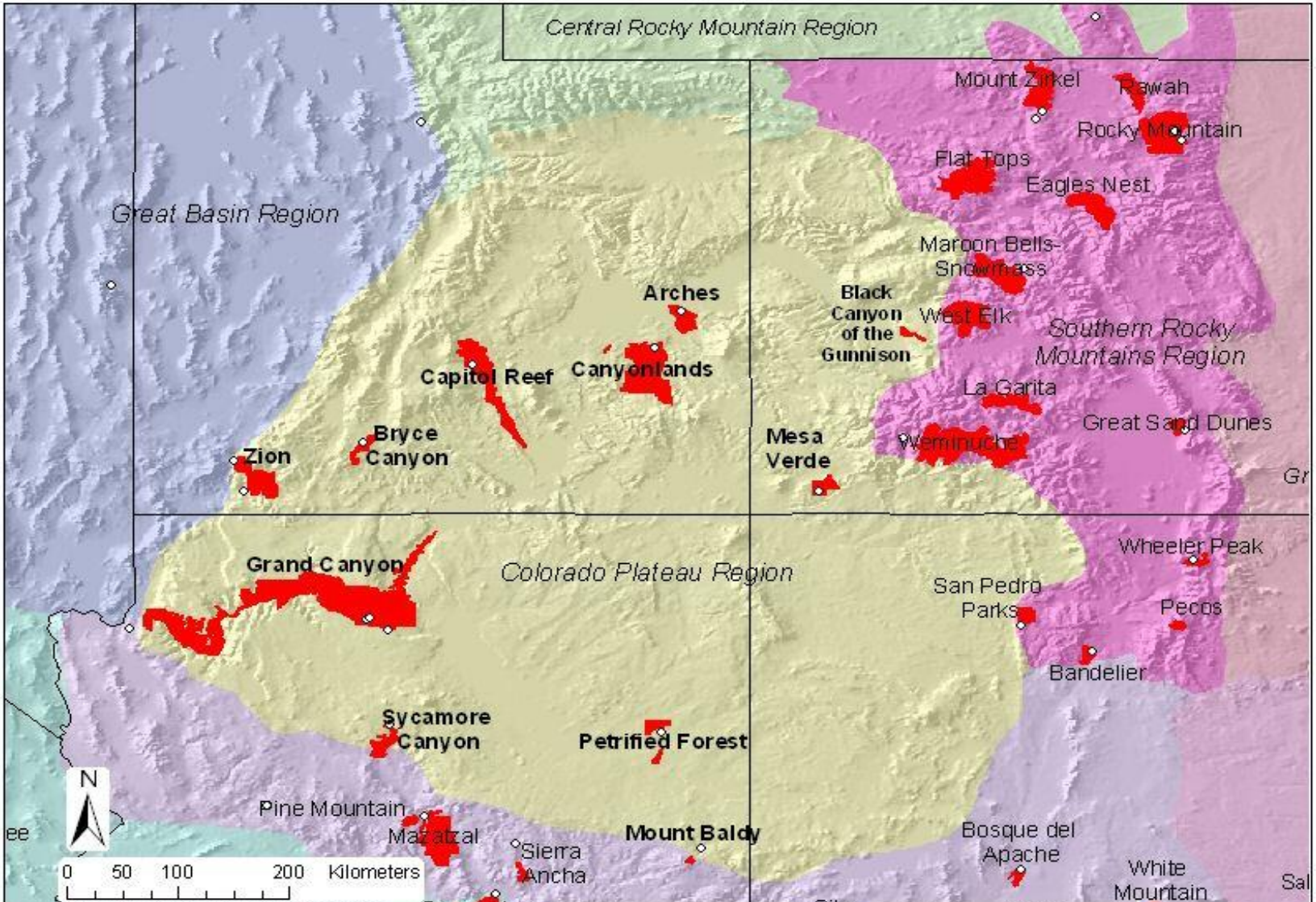
History

- The States of Colorado and New Mexico convened the Four Corners Task Force in late 2005.
  - Goals: Address air quality issues in Four Corners region & consider mitigation options for air pollution.
  - Comprised of more than 100 members and 150 interested parties.
- Multi-jurisdictional area
  - Four states, federal agencies (EPA Regions 6,8 & 9, BLM, NPS, USFS), and tribal governments (Navajo Nation, Ute Mtn. Ute, Jicarilla Apache, and Southern Ute).
- Ozone (including NOx and VOCs), particulate matter and mercury were of particular concern as regional Air Quality issues.

Focus Area Map



Class I Areas in the Four Corners



Four Corners Air Quality Task Force

- Task Force divided into five working teams:
  - Power Plants, Oil and Gas, Other Sources, Cumulative Effects, and Monitoring
- Published report after two-year effort (2005 – 2007) containing a compendium of options to address air quality concerns:
  - More than 125 mitigation options, organized by source sector, expressed a range of possibilities
  - Monitoring section discussed analysis gaps and ideas for improved monitoring in the area
  - Cumulative Effects provided quantified estimates of emission reductions for some options as well as ideas for additional analysis
  - Unique and valuable resource for responsible agencies
  - Additional section on Energy Efficiency, Renewable Energy and Conservation that addresses all sources

Four Corners Air Quality Task Force

- Report considered by agencies as air quality and land management strategies were developed.
- Strategies may include developing new and revised regulations, supporting new legislation, developing new outreach and information programs, and developing and/or expanding voluntary programs for emission reductions.
- Examples include: BLM permit requirements, EPA performance standards, and voluntary industry practices.

Field Trips

Hike to High Mountain Lake

Molas Lake

Bayfield IMPROVE site

Regional Power Plants

Four Corners Air Quality Task Force Meetings

Cortez, CO, 2005

Durango, CO, 2007

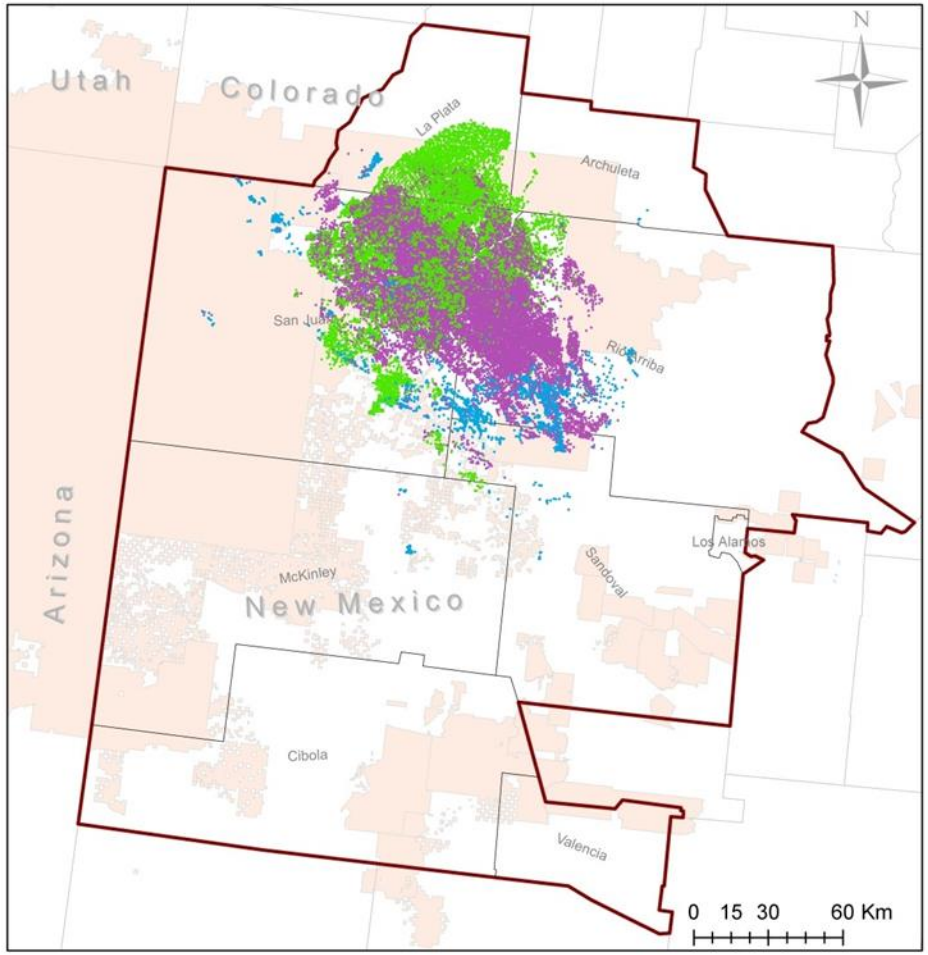
Four Corners Air Quality Group: Present

- The Four Corners Air Quality Group was formed after the Task Force completed its mission.
- The Policy Oversight Group, comprised of 13 agencies, convenes regularly to discuss progress and regional issues, operating under a cooperative MOU.
- Two specialized methane forums were held in 2015 and 2017 to further understanding of the region's methane measurements.
- Annual public forums are convened for individuals interested in air quality to learn about current conditions, review progress on mitigation of air quality impacts, and generally contribute to clean air in the Four Corners Area.
  - Website: https://www.env.nm.gov/air-quality/fcaqg/

4CAQG 2017 Meeting in Durango, CO

Four Corners Emission Sources

Greater San Juan Basin: 2014 Well Locations by Type



Legend

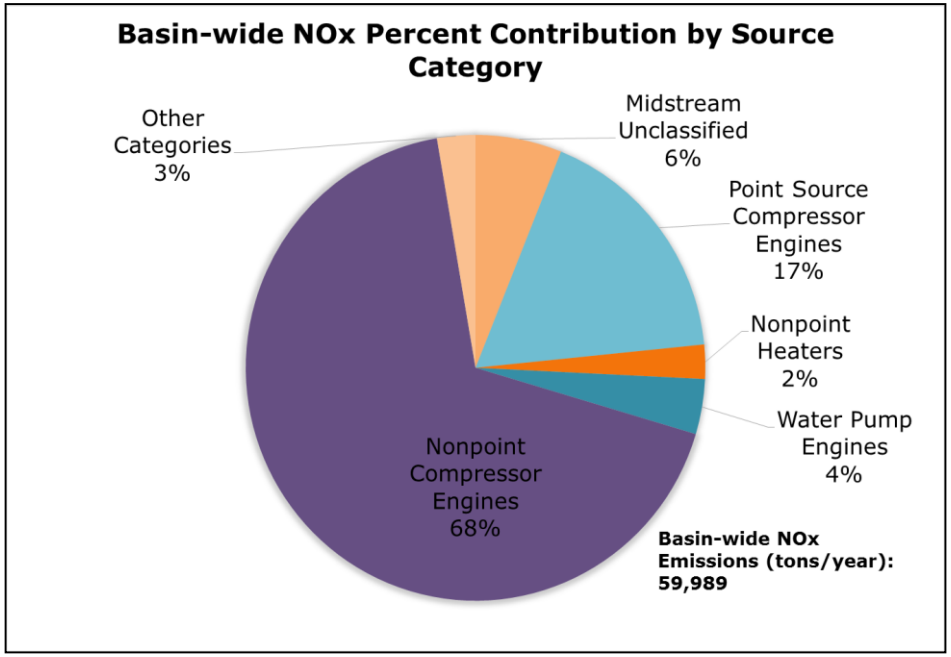
- Greater San Juan Basin (consistent with GHGRP Subpart W definition)
- Tribal Lands

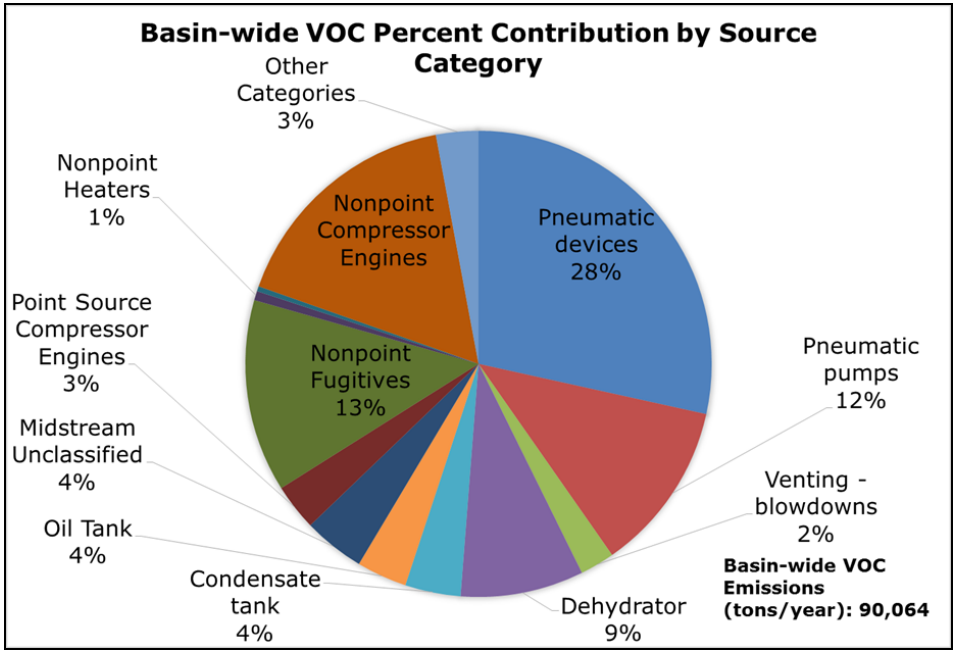
Well Type

- Oil
- CBM
- Gas

Reference: Parikh, R., J. Grant, A. Bar-Ilan. 2017 "Development of Baseline 2014 Emissions from Oil and Gas Activity in Greater San Juan Basin and Permian Basin". Ramboll Environ. November 2017.

Greater San Juan Basin 2014 VOC and NOx Emissions by Source Category





Reference: Parikh, R., J. Grant, A. Bar-Ilan. 2017 "Development of Baseline 2014 Emissions from Oil and Gas Activity in Greater San Juan Basin and Permian Basin". Ramboll Environ. November 2017.

Annual Meeting Agency Documents

- Four Corners Agency Updates
  - Changed to sector based organization
    - Power Plants
    - Oil and Gas
    - Other Sources
    - Cross-Sector
    - Modeling
    - Monitoring
- Current updates available as handout
- Four Corners Studies
  - Research and monitoring by pollutant, including
    - Ozone
    - Mercury
    - Other
- Available as handout

Work Plan and Other Studies

- The Western Regional Air Partnership (WRAP) Technical Steering Committee has completed a 2018-19 workplan.
- Continued operation of five technical work groups on key western issues:
  - Regional Technical Operations
  - Oil and Gas
  - Fire and Smoke
  - Regional Haze Planning
  - Tribal Data
- Each work group is implementing tasks under the workplan and all work groups have contractor analysis support activities underway. The WRAP workplan can be found at: https://www.wrapair2.org/TSC.aspx along with related materials and progress reports.

Multi-pollutant and other studies

- The Intermountain West Data Warehouse – Western Air Quality Study (IWDW-WAQS), sponsored by EPA Region 8, NPS, USFS, BLM, and the States of CO, NM, UT, and WY completed approval of the Cooperator Workplan in Sept. 2018 for the next 3 years of activities related to monitoring, emissions, and air quality modeling.
- The next regional modeling platform will be for calendar year 2014 based on the NEIv2, with projections to 2023 and 2028 for use in regional air quality planning studies by the Cooperators while also supporting Regional Haze planning described in the WRAP 2018-19 Workplan.

Multi-pollutant and other studies

- Work on the IWDW 2014 platform will include detailed model performance evaluation for year-round ozone, PM2.5, nitrogen deposition, and visibility.
- The IWDW data are accessible at: http://views.cira.colostate.edu/tsdw/.
- The IWDW-WAQS provides air quality data and analysis tools to support regulatory, research, and academic applications. Available datasets include emissions inventories, meteorological data, monitoring data, and air quality modeling platforms. Modeling platforms available through the IWDW support consistent AQ/AQRV photochemical grid modeling (PGM) for NEPA projects and other modeling studies.

Mitigation options (Power Plants)

- On August 21, 2018, the U.S. Environmental Protection Agency proposed the Affordable Clean Energy (ACE) rule which would establish emission guidelines for states to develop plans to address greenhouse gas emissions from existing coal-fired power plants.
- Mercury and Air Toxics Standards (MATS) for power plants finalized in December 2011.
  - Colorado state-specific rule implemented
- Future closure and emissions reductions from additional controls at regional coal-fired power plants.
  - San Juan Generating Station
    - Updated controls in 2009 (all pollutants, including mercury
    - Closed two units in 2017
    - Installed mid-tier NOx controls in 2015 on two units
    - Remaining units will be closed in 2022, according to the Integrated Resource Plan
  - Four Corners Power Plant
    - Three Units Closed
    - Top-tier NOx controls installed on two units in 2018
    - SO2 and particulate limits tightened
    - Increased monitoring
    - Environmental Mitigation projects on Navajo Nation

Mitigation options (Power Plants)

- Nucla Power Plant (CO) and its associated coal mine are slated to shut down by the end of 2022.
- Craig Power Plant Unit 1 (CO) slated to either convert to natural gas or shut down by end of 2025.
- Comanche Power Plant (CO): two units to retire - Unit 1 by the end of 2022 & Unit 2 by end of 2025.
  - Energy plan includes new renewable projects of 1,100 MW new wind, 700 MW new solar and 275 MW battery storage.
- Utah: The Intermountain Power Plant (IPP) near Delta, UT will close by 2025.

Mitigation Options (Oil and Gas)

- CO Statewide oil and gas emission controls (CDPHE) (2010, 2014, 2017)
- BLM Compressor Engine Standards (NM & CO)
- NSPS JJJJ, OOOO, OOOOa (EPA)
- Utah implemented new oil and gas rules in March 2018

Mitigation Options (Other Sources)

- Smoke Management Program (CDPHE)
- Durango Train Smoke Task Force (CDPHE)
- Particulate matter control plan for Pagosa Springs includes:
  - Street sweeping and sanding controls, use of chemical deicers, and paving of dirt roads.
- Open Burn and Stove Changeout program (NNEPA)

Mitigation Options (Other Sources)

- DERA School Bus Retrofits (CO, NM)
- Beneficiary Mitigation Plan for the Volkswagen settlement plan funds
- New Requirements for other major NOx and VOC sources (CDPHE)
- Stakeholder process in 2019 for consumer products and architectural coatings (CDPHE)

Mitigation Options (Cross-Sector)

- Regional Haze Rule SIP Revisions
- New Mexico Ozone Statute
  - If areas in New Mexico exceed 95% of the ozone standard, a plan with regulations to reduce ozone precursors is required.
- Tribal permitting and control of emission sources
  - SUIT regulations and permitting programs

Mitigation Options (Conservation, Renewable Energy, and Energy Efficiency)

- Energy Roadmap (EMNRD)
- Renewable Energy Portfolio standards
- Colorado Low Emissions Vehicles ("LEV") Program / ZEV consideration per Executive Order (CDPHE)
- Colorado GHG reduction goal per executive order (CDPHE)

Next Steps

- Continue assessing air quality issues and solutions in the Four Corners Region.
- Continue yearly update meetings on progress and agency actions.
- Website & listserv: https://www.env.nm.gov/air-quality/fcaqg/
- Contact: Mark.Jones@state.nm.us 505-566-9746 or Lisa Devore 303-692-3117, Lisa.Devore@state.co.us.