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US Environmental Protection Agency
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Thank you for the opportunity to submit comments on the Environmental Protection Agency's (EPA) revised intended Air Quality Designations for the 2015 Ozone National Ambient Air Quality Standards. The following comments pertain to the designation for Weld County, Colorado and its inclusion in the Denver Metro/North Front Range ozone nonattainment area. We are pleased that EPA has, following a federal court decision, reversed its prior decision to exclude the northern portion of Weld County.

Earthworks is a national nonprofit organization committed to protecting communities and the environment from the impacts of mining and energy development while seeking sustainable solutions. For nearly 30 years, we have fulfilled our mission by working to reform government policies, improve corporate practices, influence investment decisions, and encourage responsible materials sourcing and consumption.

The Center for Biological Diversity's mission is to ensure the preservation, protection, and restoration of biodiversity, native species, ecosystems, public lands and waters, and public health through science, policy, and environmental law. Based on the understanding that the health and vigor of human societies and the integrity and wildness of the natural environment are closely linked, the Center for Biological Diversity is working to secure a future for animals and plants hovering on the brink of extinction, for the ecosystems they need to survive, and for a healthy, livable future for all of us.

Background

Ozone presents serious dangers to the communities and the ecosystems that are exposed to high levels of it. According to the EPA, ground-level ozone "can trigger a variety of health problems including chest pain, coughing, throat irritation, and airway inflammation. It also can reduce lung function and harm lung tissue. Ozone can worsen bronchitis, emphysema, and asthma, leading to increased medical care."¹ Ozone

¹ *Ground-level Ozone Basics*, EPA, <https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics#:~:text=Breathing%20ozone%20can%20trigger%20a,Learn%20more%20about%20health%20effects> (last visited Nov. 15, 2020).

also has negative effects on plant life and livestock, and even causes decreased crop yields.² Communities plagued by exposure to ground-level ozone in the ambient air suffer from “increased hospital admissions, increased daily mortality, and other markers of morbidity.”³

The Clean Air Act requires the EPA to designate an area as “nonattainment” if the area is violating the National Ambient Air Quality Standard (NAAQS) for a certain pollutant, or if it “*contributes* to ambient air quality in a nearby area that does not meet” the NAAQS.⁴ When communities suffering from ozone nonattainment are improperly designated as in attainment for ozone, they cannot remedy these negative conditions on their own.

The communities in the Denver Metro/North Front Range ozone nonattainment area have all been severely impacted by unhealthy levels of ozone pollution. The entire Denver Metro/North Front Range has been historically out of attainment for ozone, and in 2020 the area was re-designated as in “serious” nonattainment under the 2008 ozone standard.⁵ The ozone nonattainment status of each individual county contributes to the collective ozone nonattainment of the entire Denver Metro/North Front Range. Therefore, by leaving out even part of one county that is contributing to this problem, this entire area is severely affected and becomes less likely to mitigate their ozone problem.

In April 2018, the EPA, based on Colorado’s recommendation, designated the northern section of Weld County, located in the Denver Metro/North Front Range ozone nonattainment area, as in attainment for ozone, and the rest of Weld County as a nonattainment area.⁶ The EPA appeared to base its determination on the fact that the topography and meteorology of the area made it unlikely that northern Weld County would contribute to ozone violations in the rest of the county or in other areas in the Denver Metro/North Front Range.

After the EPA issued these final designations, many parties, including state and local governments, public health, and environmental groups sought judicial review of these and other attainment designations in the D.C. Circuit Court of Appeals.⁷ That Court held that the EPA’s decision to designate the northern portion of Weld County as in attainment was arbitrary and capricious due to the inaccuracy of EPA’s cited topography and meteorology, as well as the large amount of emissions that Weld County as a whole generates.⁸ It then remanded this issue to the EPA for further consideration.⁹

² *Effects of Ground Level Ozone*, IOWA DEPARTMENT OF NATURAL RESOURCES, <https://www.iowadnr.gov/Environmental-Protection/Air-Quality/Air-Pollutants/Effects-Ozone> (last visited Nov. 15, 2020).

³ *Health Effects of Ozone in the General Population*, EPA, <https://www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-general-population> (last visited Nov. 15, 2020).

⁴ 42 USC § 7407(d)(1)(A)(i) (emphasis added).

⁵ *History of ozone in Colorado*, COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, <https://cdphe.colorado.gov/history-of-ozone-in-colorado> (last visited Nov. 29, 2020).

⁶ Colorado: Denver Metro/North Front Range Nonattainment Area, Final Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document 36, J.A. 1080 (hereinafter “Final TSD”).

⁷ *Clean Wis. v. EPA*, 964 F.3d 1145, 1156 (D.C. Cir. 2020).

⁸ *Id.* at 1168-69.

⁹ *Id.* at 1168.

On June 14, 2021, the EPA published a revised determination for the Denver Metro/North Front Range ozone nonattainment area and asked for public comment by July 14, 2021.¹⁰ The revised determination proposes to “[e]xpand the boundary of the Denver Metro/North Front Range, Colorado nonattainment area to include the entirety of Weld County, rather than excluding the northern portion of the county.”¹¹ Because the EPA now agrees that the entirety of Weld County should be included in the nonattainment area boundary, Earthworks and the Center for Biological Diversity support the EPA’s proposed determination.

The Five Factor analysis

While nonattainment area boundaries are determined on a case-by-case basis, the EPA generally evaluates five factors to determine area boundaries: (1) air quality data; (2) emissions and emissions-related data; (3) meteorology; (4) geography and topography; and (5) jurisdictional boundaries.¹² Included within the final factor is a rule about creating partial boundaries, which occurs when a county is divided up for purposes of attainment. Partial boundaries may only be recognized where atmospheric dispersion is restricted somehow or where sources located in a contributing county are located only in a portion of a large county that is otherwise not contributing to violations.¹³ These factors are used in a weight-of-evidence analysis for an area.

Based on the following analysis of all five of these factors listed above, Earthworks strongly agrees that EPA should include the entirety of Weld County as part of the Denver Metro/North Front Range ozone nonattainment area.

I. Factor 1: Air Quality Data

The air quality data for Weld County did not support splitting the county in two and is, at best, inconclusive due to a lack of adequate monitoring in the northern section of Weld County. It was therefore impossible to find that this factor weighs in favor of dividing up Weld County for purposes of ozone attainment designation. Colorado’s ozone monitoring station for Weld County is located in Greeley, Colorado.

¹⁰ 86 FR 31460.

¹¹ *Id.* at 31463.

¹² State of Colorado, Technical Support Document for Recommended 8-hour Ozone Designations, Colorado Department of Public Health and Environment (Sept. 15, 2016), available at <https://www.epa.gov/sites/production/files/2016-11/documents/co-rec.pdf>, (hereinafter “Colorado TSD”).

¹³ Memorandum from Janet G. McCabe (Acting Assistant Administrator) on Area Designations for the 2015 Ozone National Ambient Air Quality Standards to Regional Administrators, at Attachment 3 (Feb. 25, 2016), available at <https://www.epa.gov/sites/production/files/2016-02/documents/ozone-designations-guidance-2015.pdf> (hereinafter “EPA Memorandum”); *Clean Wis.* 964 F.3d at 1155.

Figure 1.

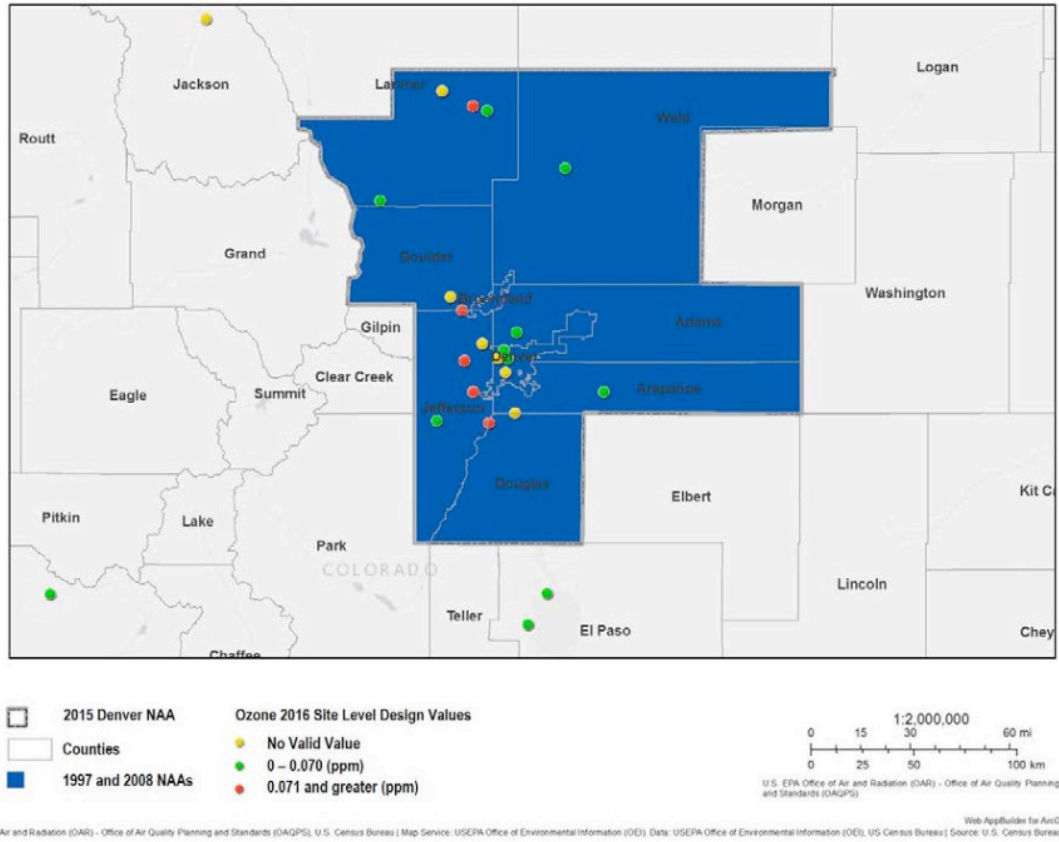


Figure 1. Colorado TSD at 6. EPA’s Final Nonattainment Boundaries for the Denver Metro/North Front Range Area.

As shown in the above figure, the Greeley monitor that the EPA and Colorado relied upon to determine Weld County’s air quality data is not actually in the northern part of Weld County. The monitor is approximately 20 miles from the nonattainment area boundary that splits northern and southern Weld County. The 2014-2016 8-hour ozone design value for this monitor, which indicates the amount of ozone released at a location, was reported as 0.070 ppm.¹⁴

In neighboring Larimer County (to the west of Weld County), the EPA recorded a design value of 0.075 ppm, which exceeds the level of the 2015 ozone NAAQS (0.070 ppm).¹⁵ This Larimer County monitor is approximately five miles from the nonattainment area boundary, much closer to the northern portion of Weld County than the Greeley monitor. Accordingly, air quality data at the Greeley monitor is not determinative of a north/south split in Weld County, and this factor should not have been considered by the EPA as indicative in April 2018. The monitors closest to northern Weld County are either at or exceeding the NAAQS, and therefore it was illogical to presume that northern Weld County would not

¹⁴ Colorado TSD, *supra* note 10, at page 8, Table 2.
¹⁵ *Id.*

also be at or exceeding that threshold (or contributing to a neighboring county's ozone problem) based on the monitoring data actually located in the region.

In the EPA's revised determination, the Agency appropriately concludes that even though the sole monitor in Weld County shows an attaining design value, the whole county is near "counties that do have violating monitors," such as Larimer County. At best, the monitoring data is inconclusive, but as discussed, facts undermine any decision to split Weld County in two.

II. Factor 2: Emissions and Emissions-Related Data

Ground-level ozone is not a pollutant that is emitted directly into the air, but is formed by chemical reactions primarily between oxide of nitrogen (NOx) and volatile organic compounds (VOCs). Because ozone and its precursor emissions are pervasive and readily transported, the EPA "examine[s] ozone-contributing emissions across a relatively broad geographic area associated with a monitored violation."¹⁶ This means that the EPA needs to account for the effects of emissions in one county on other counties.

Weld County, as a whole, has the highest reported levels of NOx (31,318 tpy) and VOC (102,046 tpy) emissions in Colorado.¹⁷ In total, Weld County is responsible for 28% of total NOx and 58% of total VOCs in the entire nonattainment area.¹⁸ While the EPA previously failed to identify what portion of those emissions could be attributed to northern versus southern Weld County, according to the Denver Metro/North Front Range Nonattainment Area: Final Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document, Colorado determined that 2011 emissions for the northern portion of Weld County were estimated at 8,042 total NOx tpy and 18,610 total VOC tpy, or 25% of total NOx and 18% of total VOC emissions in Weld County.

Assuming those emissions were held constant through 2014, northern Weld County would account for 7% of total NOx and 11% of total VOCs in the nonattainment area.¹⁹ Put differently, northern Weld County would rank seventh in total NOx emissions and second in total VOC emissions across the whole area.²⁰

Of course, emissions in Weld County have not held constant from 2011 to 2014. To the contrary, while Colorado's state-wide NOx emissions decreased from 2011 to 2014,²¹ Weld County's NOx emissions actually increased.²² Studies are increasingly finding that oil and natural gas production results in increased nitrogen dioxide levels.²³ Similarly, VOC emissions have also increased in Weld County.

¹⁶ EPA Memorandum, *supra* note 11, at 5.

¹⁷ Final TSD, *supra* note 6, at 12.

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ L.C. Cheadle, et. al., Surface ozone in the Colorado northern Front Range and the influence of oil and gas development during FRAPPE/DISCOVER-AW in summer 2014. *ELEM. SCI. ANTH.* 5:61, at 2 (2017), available at <https://www.elementascience.org/article/10.1525/elementa.254/#T1>.

²² *Id.*

²³ Aman Majid, et. al., A decade of changes in nitrogen oxides over regions of oil and natural gas activity in the United States, *ELEM. SCI. ANTH.* 5:76 at 11 (2017), available at <https://www.elementascience.org/articles/10.1525/elementa.259/>.

This is likely because VOC emissions that are typically released from oil and gas sites have been consistently found to contribute significantly to regional ozone.²⁴ Furthermore, recent research strongly suggests that ethane and methane, which are key pollutants from the oil and gas industry, have a large role in ozone formation. Research shows that increases in methane yield a net global increase in ozone, and the combination of methane and NOx emissions reductions is the most effective way to lower ozone levels.²⁵ Ethane, when in the presence of NOx, has been found to enhance ozone production, particularly in already polluted air masses.²⁶

In Weld County, annual oil production increased from 21 to 81 million barrels from 2010 to 2014, and annual gas production increased from 219 to 392 billion cubic feet.²⁷ Weld County on its own is responsible for 90% of oil produced in Colorado,²⁸ and 39% of Colorado’s natural gas.²⁹ Figure 2 illustrates how Weld County is home to far higher number of oil and gas wells compared to other Colorado counties.

Figure 2

NUMBER OF ACTIVE COLORADO OIL AND GAS WELLS BY COUNTY

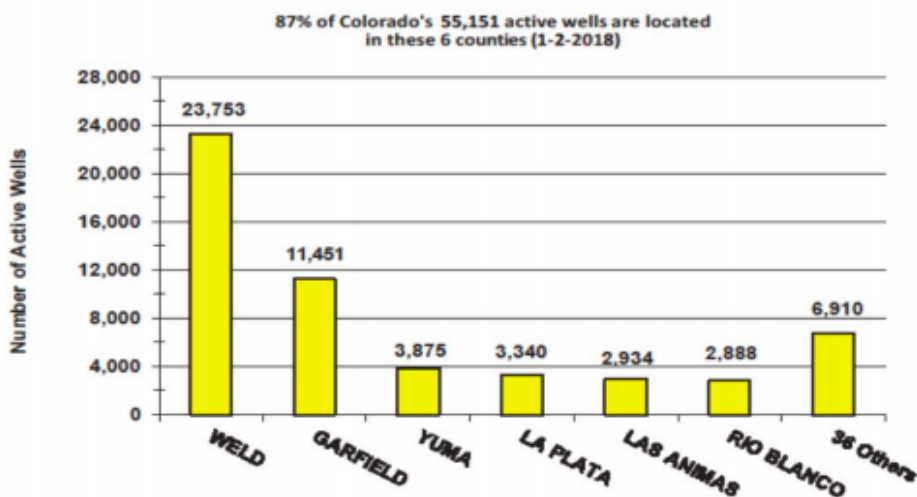


Figure 2. Page 2 of Weld County Oil & Gas Update, January 2017, available at https://www.weldsheriff.com/UserFiles/Servers/Server_6/File/Departments/Planning%20&%20Zoning/Oil%20and%20Gas/Updates/Oil%20%20Gas%20Update%20January%202017.pdf.

²⁴ Cheadle, et. al., *supra* note 19, at 2.

²⁵ Arlene M. Fiore, et al., *Characterizing the tropospheric ozone response to methane emission controls and the benefits to climate and air quality*, JOURNAL OF GEOPHYSICAL RESEARCH, at 2 (2008).

²⁶ B. Franco, et. al., *Evaluating ethane and methane emissions associated with the development of oil and natural gas extraction in North America*, ENVIRON. RES. LETT. at 1-2 (2016).

²⁷ Cheadle, et. al., *supra* note 19, at 1-2.

²⁸ Detlev Helmig, *Air quality impacts from oil and natural gas development in Colorado*, ELEM. SCI. ANTH, 8:4 at 1 (2020), available at <https://www.elementascience.org/article/10.1525/elementa.254/#T1>.

²⁹ Weld County Oil & Gas Update February 2018.

Should these trends continue as expected, attainment will become increasingly difficult to maintain or achieve in any part of the county. Accordingly, northern Weld County may have an even greater impact on ozone levels than reported in the EPA’s April 2018 Technical Support Document. As shown in Figures 3 and 4, although there is an extraordinarily high number of wells in the lower portion of Weld County, there is also a very significant number of wells in the excluded northern portion. Excluding part of Weld County is demonstrably illogical in the face of the rapidly growing oil & gas industry there.

Figure 3.

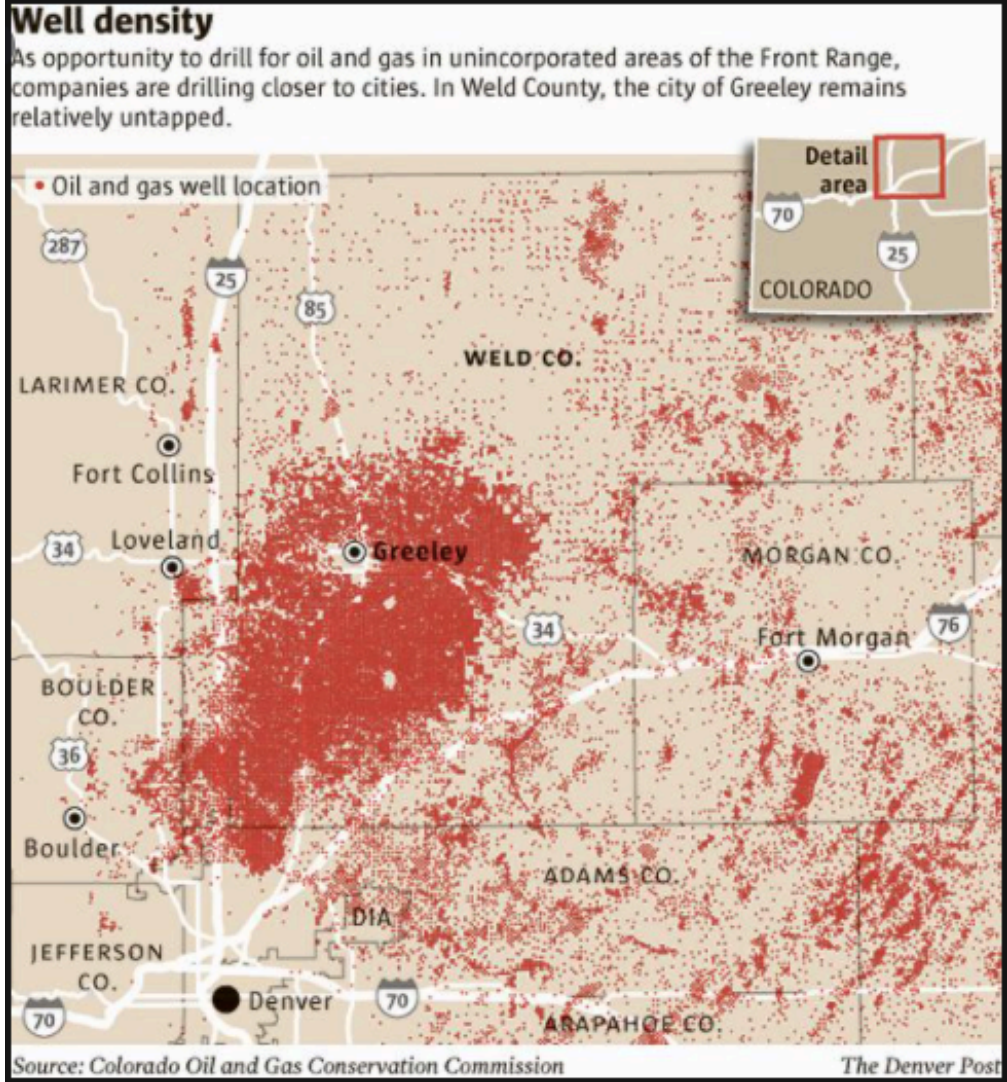


Figure 3. Bruce Finley, *Drilling in gung-ho Greeley, hits opposition near west-side homes*, THE DENVER POST (May 4, 2013 at 1:40 pm) <https://www.denverpost.com/2013/05/04/drilling-in-gung-ho-greeley-hits-opposition-near-west-side-homes/>.

Figure 4.

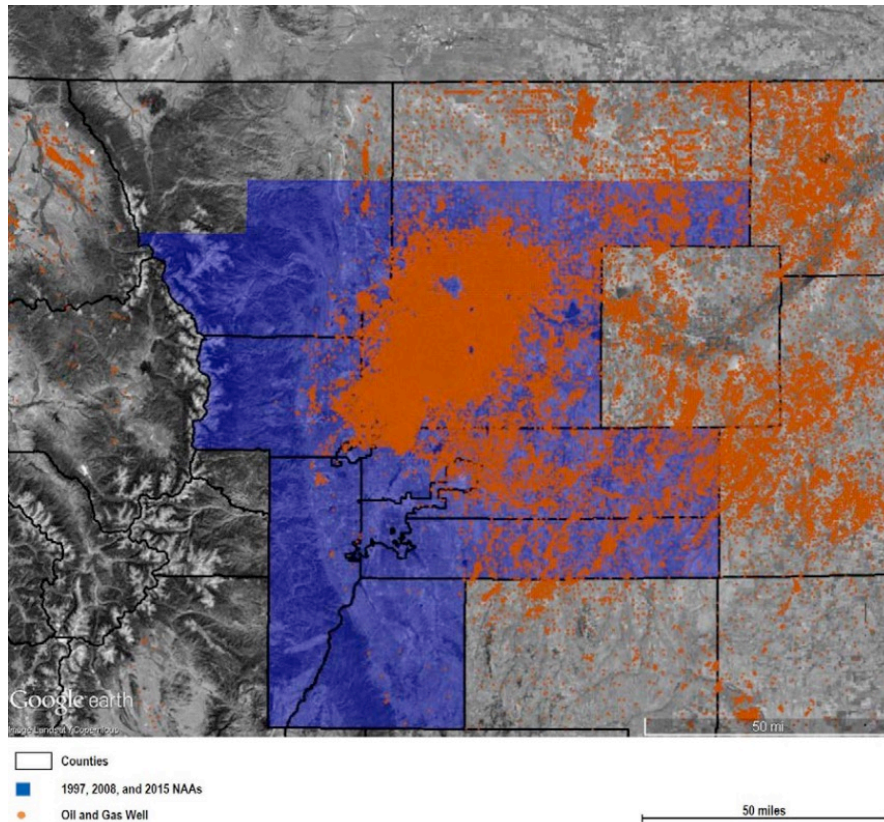


Figure 4. Final TSD, Listed as Figure 4, at page 14. Oil and Gas Wells in and Around Area of Analysis in the Colorado: Denver Metro/North Front Range Nonattainment Area.

Part of the EPA’s previously-stated reasoning for splitting off northern Weld County was the supposedly “low” percentage of the county’s total emissions for which it was responsible.³⁰ However, the Court in *Clean Wisconsin v. EPA* stated that “[g]iven that Weld County sources generate exceptionally high amounts of VOCs and NOx – mostly from oil and gas operations – the fact that northern Weld County contributed only a quarter of those emissions does not support EPA’s decision not to consider them.”³¹

³⁰ Final TSD, *supra* note 6, at 34.

³¹ *Clean Wis.*, 964 F.3d at 1168.

The EPA's only argument in April 2018 as to why emissions from northern Weld County are not significant has been rejected by the Court. Furthermore, there are at least three large point sources located in northern Weld County, and multiple small point sources. As shown in Figure 5, the portion of Weld County that was excluded appears to have as many small point sources as Adams, Douglas, and Arapahoe County, and more large point sources than Douglas and Arapahoe County, and those counties were all designated in their entirety as nonattainment for ozone. It was illogical to find that those counties need to be designated as nonattainment in their entirety, but that the northern part of Weld County should be split off to be designated as in attainment.

Figure 5.

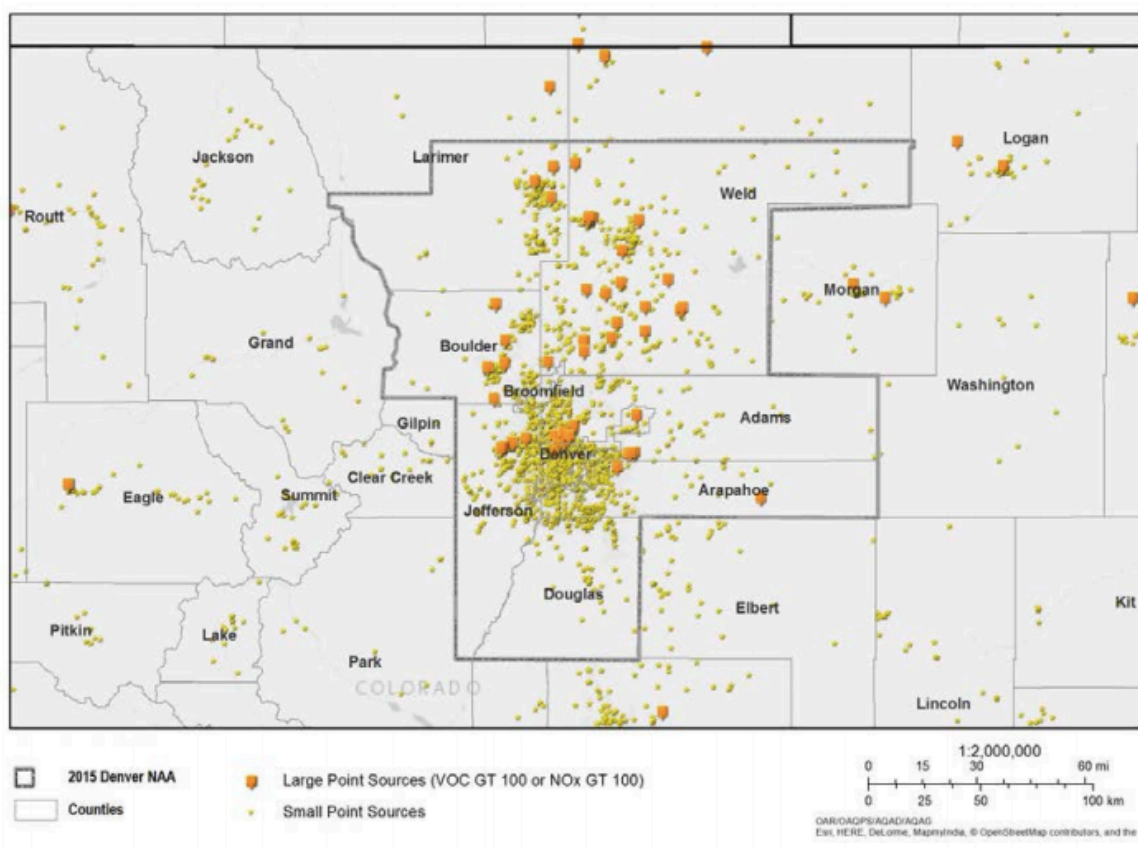


Figure 5. Final TSD, Listed as Figure 3, at page 13. Large and Small Point Sources in the Area of Analysis in in the Colorado: Denver Metro/North Front Range Nonattainment Area.

The EPA also considers population density and growth under this factor. These characteristics can be indicators of non-point source emissions.³² Weld County's population grew by 13% from 2010 to 2015.³³ It was tied for the third-fastest growing county in the Denver Metro/North Front Range area. Its population density is projected to grow from 63 people per square mile in 2010 to over 122 people per

³² Final TSD, *supra* note 6, at 14.

³³ *Id.* at 15, Table 4.

square mile in 2030.³⁴ Furthermore, Weld County has averaged a 3.5% annual growth rate, which is the second fastest among counties in Colorado.³⁵

The EPA previously relied heavily on the fact that the population in the northern portion of Weld County does not currently make up a large percentage of the total Denver Metro/North Front Range population, instead of accounting for how much this population is growing and is anticipated to grow. Population growth traditionally leads to an increase in emissions, and “[t]here can be little doubt that population growth is a cause of increased levels of ozone....”³⁶ Therefore, the EPA needed to and failed to account for the population growth rate in Weld County when analyzing the northern portions’ effect on the Denver Metro/North Front Range area.

In the revised determination, the EPA correctly concludes that this factor does not support splitting northern Weld County off from the nonattainment area boundary. Indeed, the record strongly supports including the whole of Weld County in the designation.

III. Factor 3: Meteorological Data

The meteorological data in the administrative record directly contradicted the EPA’s April 2018 decision to not include northern Weld County in the nonattainment area. As displayed in Colorado’s Technical Support Document, the terrain of northern Weld County and Weld County as a whole slopes downward to the south towards the South Platte River (see figure 6 below).³⁷

As the Colorado Technical Support Document notes, a key pattern affecting air quality is the nighttime and early morning down valley drainage flow.³⁸ These drainage winds move surface air down valleys and canyons toward the widening of the Platte Valley in Weld County.³⁹ As discussed in section II, there are significant emissions sources in northern Weld County. This wind pattern would suggest that the significant emissions produced in northern Weld County would flow south during the night and early morning into the nonattainment area and would contribute to the nonattainment area’s overall emissions.

³⁴ The Weld County Population Development Report at 5 (Dec. 31, 2018), https://www.weldgov.com/UserFiles/Servers/Server_6/File/Departments/Planning%20&%20Zoning/Long%20Range%20Planning/2018%20Weld%20County%20Population%20and%20Development%20Report.pdf.

³⁵ Weld County Transportation Plan 2045, Weld County Public Works Department, at 7 (Sept. 4, 2020), https://www.weldgov.com/UserFiles/Servers/Server_6/File/Departments/Public%20Works/Transportation%20Planning/2045%20Transportation%20Plan/TP%209-4-20.pdf.

³⁶ James C. Cramer & Robin P. Cheney, Lost in the Ozone: Population Growth and Ozone in California, 21 POPULATION AND ENVIRONMENT: A JOURNAL OF INTERDISCIPLINARY STUDIES 315, 316 (2000).

³⁷ Colorado TSD, *supra* note 10, at 46, Figure 1-31.

³⁸ *Id.* at 34.

³⁹ *Id.*

Figure 6.

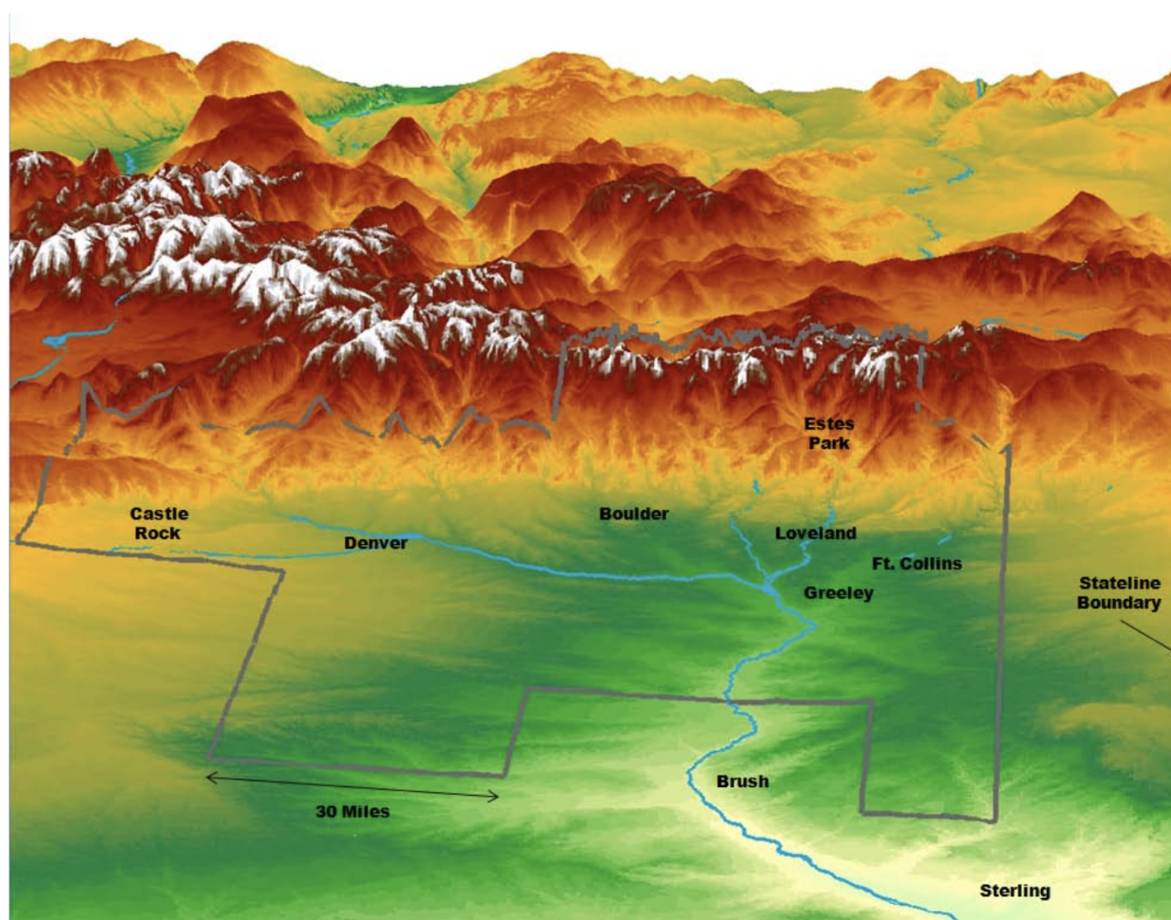


Figure 6. Colorado TSD, listed As Figure 1-31, at p. 46. Weld County is shown on the righthand side of the image with the grey line defining the boundary between the southern part of Weld County (to the left of the line) designated as nonattainment, and the northern half of Weld County (to the right of the line) designated as attainment.

“An agency rule would be arbitrary and capricious if the agency... offered an explanation for its decision that runs counter to the evidence before the agency.”⁴⁰ The meteorological evidence before the EPA in the Technical Support Document suggests that emissions from both northern and southern Weld County often flow towards Denver. This meteorological pattern is identified and discussed by EPA when analyzing the airshed as a whole, but completely ignored when EPA addressed Weld County. The EPA treated emissions from northern Weld County differently than emissions in southern Weld County, for no apparent reason. As such the entirety of Weld County should have been included in the non-attainment area. In this instance as well, the EPA’s April 2018 decision ran counter to the evidence.

In the EPA’s revised determination, the Agency assessed a variety of meteorological trajectories, which “show trajectories initiating in or transecting the northern portion of Weld County.” In fact, as EPA now

⁴⁰ *Motor Vehicles Mfrs. Ass’n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 28-29 (1983).

recognizes, “air parcels impacting all the violating monitors during high ozone events” can be traced back to “the northern portion of Weld County during the prior 24 hours.”

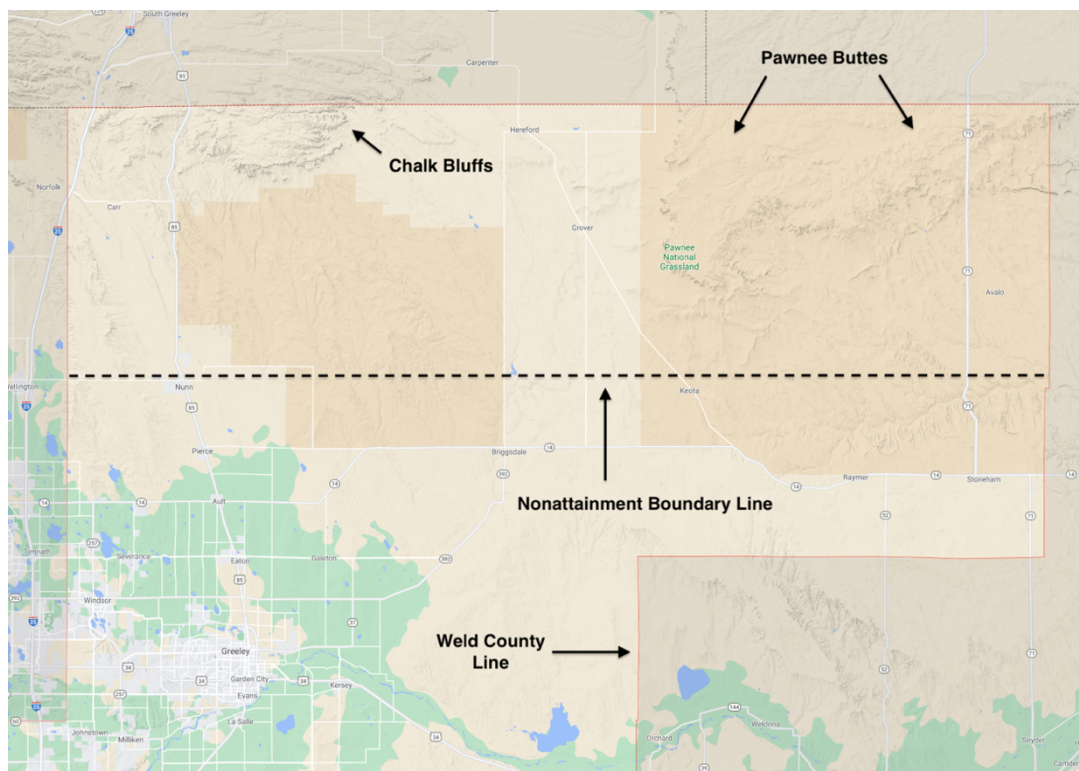
Accordingly, Earthworks agrees that nothing in the record supports excluding northern Weld County and in fact requires that the EPA include the whole county within the boundary for the Denver Metro/North Front Range ozone nonattainment area.

IV. Factor 4: Geography/Topography

There is nothing in the topography or geography of northern Weld County that supported the EPA’s April 2018 decision to exclude the area from the nonattainment zone. The court noted in *Clean Wisconsin* that, “EPA [does not] coherently explain its conclusion that local topography and meteorology prevent northern Weld from contributing to Denver exceedances.”⁴¹

The EPA claimed that the Cheyenne Ridge “roughly coincide[s]” with the nonattainment area boundary.⁴² It does not. The Court noted in *Clean Wisconsin*, in Colorado’s Technical Support Document, the state described the Cheyenne Ridge, “[a]long Colorado’s border with Wyoming.”⁴³ Indeed a topographic map of northern Weld County fails to show any topographic feature whatsoever, much less one that follows the nonattainment boundary line. (see figure 7).

Figure 7. (Imagery courtesy of Google Maps)



⁴¹ *Clean Wisconsin*, 964 F.3d at 1168.

⁴² Final TSD, *supra* note 6, at 36.

⁴³ *Clean Wisconsin*, 964 F.3d at 1168

A 2016 journal article by researchers from the National Oceanic and Atmospheric Administration and the University of Colorado Boulder described the Cheyenne Ridge as, “in Wyoming” and as “in southeastern Wyoming.”⁴⁴ An infographic shown in the article (Figure 8 below) clearly labels the Cheyenne Ridge as located in southeastern Wyoming.⁴⁵

Figure 8.

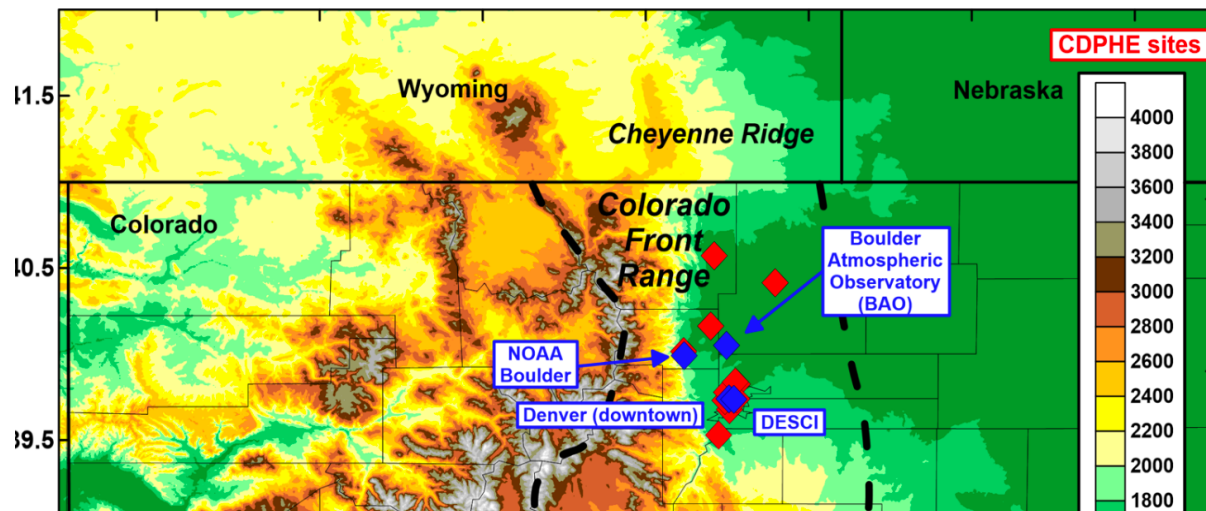


Figure 8. Listed as Figure 1, Creaman, et al, *infra* note 42, at p. 12330. Map of monitoring locations, including NOAA DSRC in Boulder, which housed the PX-375 and TOPAZ lidar instruments; the BAO, where the 449 MHz wind profiler was deployed; downtown Denver; the CDPHE DESC1 site, where atmospheric extinction/visibility is measured; and the CDPHE sites where PM_{2.5} and PM₁₀ are monitored.

Additionally, nothing in the April 2018 Technical Support Document or EPA’s record supported a conclusion that the “Cheyenne Ridge”—even if it were located in Weld County—impedes airflow and the transport of ozone precursor emissions from northern Weld County to the Denver Metro/North Front Range nonattainment area.

In the EPA’s revised determination and 2021 Technical Support Document, the EPA now asserts that the Cheyenne Ridge “extends from the foothills of the Rocky Mountains eastward generally parallel to the Colorado-Wyoming border” and is “north of the nonattainment area boundary recommended by [Colorado] for the 2015 ozone NAAQS.” In fact, the “ridge” may be a misnomer as it “is a wide elevated area that has no clear ridgeline” that slopes in various directions depending on one’s location.

⁴⁴ Jessie M. Creaman, et al., Colorado air quality impacted by long-range transported aerosol: a set of case studies during the 2015 Pacific Northwest Fires, 16 *ATMOSPHERIC CHEMISTRY AND PHYSICS* 12330, 12337 (2016), available at https://www.researchgate.net/publication/308757671_Colorado_air_quality_impacted_by_long-range-transported_aerosol_A_set_of_case_studies_during_the_2015_Pacific_Northwest_fires.

⁴⁵ *Id.* at 12330.

Thus, EPA found the Cheyenne Ridge in Wyoming after all. The revised determination fixes the April 2018 errors and EPA now correctly concludes that there are no geographical or topographical features that justify excluding northern Weld County from the nonattainment area.

V. Factor 5: Jurisdictional Boundaries

The purpose of using existing jurisdictional boundaries when making attainment zone designations is to, “provid[e] a clearly defined legal boundary and carr[y] out the air quality planning and enforcement functions for nonattainment areas.”⁴⁶ The EPA had cut the existing jurisdictional boundary of Weld County in half for no discernible reason. The EPA had also provided no rationale for why it chose the specific line that it did to divide the county in two. While the agency had vaguely discussed purported differences between northern Weld County and the rest of the county, it provided no rationale for the specific line it chose, or where that line even is. Particularly in light of the analysis under the previous four factors, there was no rationale for doing this.

The EPA normally takes the position that an entire violating county should be included in an ozone nonattainment area.⁴⁷ Partial boundaries may only be recognized where atmospheric dispersion is restricted (e.g., valleys) or “where the sources located in a contributing county are located only in a portion of a large county that is otherwise not contributing to the nearby violations.”⁴⁸ As discussed throughout this comment, neither of these situations apply to Weld County.

The atmospheric dispersion is not restricted to Weld County, and the excluded part of Weld County still contributes significantly to violations. The excluded part of Weld County is home to three large point sources and many small sources. Further, the split should be based on “well-defined legal jurisdictional boundaries such as townships, census blocks, immovable landmarks (e.g., major roadways), or other permanent and readily identifiable boundaries.”⁴⁹ There are no permanent or readily identifiable boundaries at the Weld County division. The closest identifier is Weld County Road 100, which does not trace the entire border of the excluded area, and is not a “major roadway.”⁵⁰ Therefore, this situation did not meet the EPA’s own requirements for creating a partial boundary.

Furthermore, the EPA has actively campaigned for regulatory consistency in other regulatory decisions. For example, the EPA proposed to implement new control requirements for Utah-regulated American Indian lands specifically to “promote a more consistent regulatory environment across the Basin.”⁵¹ Splitting northern Weld County from the nonattainment area would have been inconsistent with the EPA’s goals by ignoring existing regulating boundaries.

⁴⁶ Colorado TSD, *supra* note 10, at 10.

⁴⁷ EPA Memorandum, *supra* note 11, at 7.

⁴⁸ *Id.* at Attachment 3, at 7.

⁴⁹ EPA Memorandum, *supra* note 11, at 7.

⁵⁰ *Id.*

⁵¹ *Federal Implementation Plan for Managing Emissions from Oil and Natural Gas Sources on Indian County Lands Within the Uintah and Ouray Indian Reservation in Utah*, 85 Fed. Reg. 3492, 3495 (Jan. 21, 2020).

Dividing up counties results in a plethora of regulatory and enforcement challenges. It is difficult for a county to implement the proper procedures when different regulations apply to different halves of the county. This also may incentivize oil and gas companies to migrate to the northern half of Weld County and drill diagonal or horizontal wells into the nonattainment area to evade stricter regulations from Colorado's State Implementation Plan ("SIP"). For example, pollution sources in northern Weld County are not subject to more stringent permitting requirements that Colorado must implement in southern Weld County in order to mitigate its ozone problem. This is particularly concerning in light of Weld County's existing problems with extensive oil and gas industry growth.

In the EPA's revised determination, the Earthworks agrees that "including the entirety of Weld County in the nonattainment area is necessary to effectively encompass the emission sources contributing to the violating monitors."

Conclusion

The air quality, emissions and emissions-related data, meteorological data, geography and topography, and jurisdictional boundaries of Weld County, and the northern half of Weld County in particular, all indicate that the EPA acted arbitrarily and capriciously in dividing up Weld County and designating its northern half as in attainment for ozone.

The EPA corrects this error in judgment with its revised determination by following the already-established jurisdictional boundaries of Weld County and including the entirety of Weld County as part of the Denver Metro/North Front Range ozone nonattainment area.

This designation will require stricter standards for all contributing emissions sources in the area and will allow the communities of the Denver Metro/North Front Range ozone nonattainment area to breathe cleaner air and be safe from adverse health effects that exposure to excessive ozone can cause.

Sincerely,

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