

In Re: Deseret Power Electric Cooperative,
Bonanza Power Plant,

Permit # V-UO-000004-2019.00

ATTACHMENT 5

**Deseret Bonanza Power Plant
Clean Air Act (CAA) Title V Permit Renewal
Draft Response to Comments**

I. Introduction

Executive Order 14096, entitled *Revitalizing Our Nation's Commitment to Environmental Justice for All*,¹ supplements Executive Order 12898² and reinforces the federal government's commitment to advancing environmental justice, equity, and civil rights, establishing a policy that "every person must have clean air to breathe; clean water to drink; safe and healthy foods to eat; and an environment that is healthy, sustainable, climate-resilient, and free from harmful pollution and chemical exposure."³ The Order defines the term "environmental justice"⁴ and sets forth a government-wide approach to environmental justice. This EJ analysis provides a context for the Deseret Generation and Transmission Co-operative (Deseret) Bonanza Power Plant (Bonanza) Clean Air Act (CAA) title V renewal permit within EPA's EJ framework.

Bonanza is located in Indian country within the exterior boundaries of the Uintah and Ouray Indian Reservation of the Ute Indian Tribe, approximately 7.5 miles northwest of Bonanza, Utah, and 28 miles southeast of Vernal, Utah. Bonanza is a single 500-megawatt coal-fired unit. Region 8's Statement of Basis in the administrative record for this action, Docket ID #[EPA-R08-OAR-2019-0350](#), offers additional information. The regulatory comment period on the draft title V renewal permit for Bonanza closed on March 11, 2021. The EPA received a comment from the Ute Indian Tribe (Tribe) and has prepared this EJ Analysis in part, to respond to the Tribe's comments.

II. Permitting Background

On February 9, 2021, the EPA proposed to renew the CAA title V operating permit for Bonanza. The original title V permit was effective on January 7, 2015, and this action is the first renewal of that permit. Title V permits are issued for a fixed term of five years and may be renewed subject to the same procedural requirements that apply to the issuance of initial permits. The title V operating permit program generally does not impose new substantive air quality control requirements, but rather serves as a vehicle for compiling all such requirements as they apply to

¹ Exec. Order No. 14096, *Revitalizing Our Nation's Commitment to Environmental Justice for All*, 88 Fed. Reg. 25251 (Apr. 21, 2023) (hereinafter EO 14096).

² Exec. Order No. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 59 Fed. Reg. 7629 (Feb. 11, 1994).

³ EO 14096, 88 Fed. Reg. at 25251.

⁴ "Environmental justice" means the just treatment and meaningful involvement of all people, regardless of income, race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment so that people: (i) are fully protected from disproportionate and adverse human health and environmental effects (including risks) and hazards, including those related to climate change, the cumulative impacts of environmental and other burdens, and the legacy of racism or other structural or systemic barriers; and (ii) have equitable access to a healthy, sustainable, and resilient environment in which to live, play, work, learn, grow, worship, and engage in cultural and subsistence practices." EO 14096, 88 Fed. Reg. at 15253.

a source. The CAA also requires that title V permits contain adequate testing, monitoring, recordkeeping, reporting, and other requirements to assure compliance with applicable requirements.

The proposed Bonanza title V permit renewal includes the same requirements for controlling air pollutant emissions as the prior January 2015 permit, including limits for particulate matter (PM), sulfur dioxide (SO₂), and nitrogen oxides (NO_x). The permit also contains the terms of a 2015 settlement among the EPA, WildEarth Guardians, Sierra Club, and Deseret. This settlement required Bonanza to install and operate combustion controls (i.e., low NO_x burners with overfire air) no later than 2018. Corresponding emission limits included 1. a 365-day rolling average NO_x limit; 2. an annual NO_x cap; 3. a lower NO_x annual cap beginning on January 1, 2030; 4. a coal consumption cap of 20,000,000 short tons for the period from January 1, 2020 through the end of service (unless Deseret instead applies for and receives approval to construct from the EPA (to the extent required), and installs and operates post-combustion controls (selective catalytic reduction) and meets a lower monthly NO_x limit before December 31, 2029)⁵. Neither the current nor the proposed title V permits limit CO₂ emissions. However, Bonanza power plant emits approximately 3.5 million tons of carbon dioxide (CO₂) per year.⁶ To date, Bonanza has not changed or modified emissions units at the facility. Thus, there are no additional air quality impacts associated with the permit renewal.

The EPA evaluated Bonanza's permit terms and determined that the permit renewal includes monitoring, compliance certification, and reporting requirements sufficient to assure compliance with the terms and conditions of the permit. The Statement of Basis for the EPA's proposed permit renewal includes additional information regarding the permit terms and underlying air requirements.

III. Tribal Consultation and Public Participation

The Uintah and Ouray Indian Reservation of the Ute Indian Tribe lies primarily within Uintah and Duchesne Counties and encompasses approximately 6,823 square miles (over 4.5 million acres). The population of both counties combined is 57,302⁷. The Reservation is the second largest Indian reservation in the United States. According to the Tribe's website, "The Utes have a tribal membership of 2,970 and over half of its membership lives on the Reservation."⁸

The EPA met with members of the Ute Tribe Business Committee (Business Committee) on September 22, 2020. In follow-up to that meeting, the Business Committee requested in an

⁵ On July 13, 2023, Deseret submitted a request to EPA Region 8 to amend the current permits (MNSR-UO-000004-2015.004, issued February 11, 2016, and the corresponding title V permit (V-UO-000004-00.02). The amendment provides the plan to comply with the EPA's Good Neighbor Plan by installing an SCR on Boiler #1.

⁶ Table 2 in the Statement of Basis reports the CO₂ emissions from two onsite engines but not the main boiler. Bonanza's full emissions are reported in the Power Plants and Neighboring Communities Mapping Tool, <https://experience.arcgis.com/experience/2e3610d731cb4cfcbee9e2dcb83fc94>.

⁷ Source: U.S. Census Bureau Quickfacts, <https://www.census.gov/quickfacts/fact/table/duchesnecountyutah,uintahcountyutah/INT100219>, accessed July 19, 2023.

⁸ About the Utes, <https://www.utetribe.com/>, (last visited April 10, 2023).

October 14, 2020 letter that the EPA hold a public hearing on the EPA’s proposed Bonanza permit renewal. In response, EPA offered, in a letter dated January 7, 2021, to consult with the Tribe on the permit renewal action and hold a public hearing on the proposed permit renewal. The EPA met with Tribal representatives on January 12, 2021 and held a public hearing on the permit renewal on March 11, 2021.⁹ The EPA also offered a 30-day public comment period which ended on March 11, 2021. The Tribe did not attend the public hearing but submitted a comment letter on March 22, 2021.¹⁰

In the Tribe’s comment letter, the Tribe stated that its members continue to experience serious health issues attributable to poor Reservation air quality, and that Bonanza emissions have had deleterious impacts on vegetation and wildlife on Tribal lands in the surrounding area. The Tribe asserted that federal law requires the EPA to protect the Tribe from having to shoulder a disproportionate share of the adverse environmental impacts caused by Bonanza. Furthermore, the Tribe stated that the EPA is obligated to mitigate and prevent harmful impacts pursuant to the federal trust responsibility and Executive Order 12898. In its March 22, 2021 comment letter, the Tribe restated their comments submitted in 2015 when the EPA proposed to resolve WildEarth Guardians’ and Sierra Club’s claims through a settlement agreement. In those comments, the Tribe specifically raised concerns about Bonanza’s NO_x emissions and the contribution of those emissions to ozone formation in the Uinta Basin. The comments assert that Bonanza emits more than 3.5 million tons of air pollution from a 600-foot smokestack, including approximately one-third of the NO_x in the Uinta Basin, and that ground-level ozone is a major health concern on the Reservation, leading to asthma attacks, lung tissue scarring in children, Tribal elders having to go to the emergency room, and premature death.

The Tribe’s 2015 comments asserted that Deseret should be required by the settlement agreement to take mitigation measures, such as tree planting, contributions to a fund to address health impacts on Tribal members, and other actions to address its impacts on air quality in the Uinta Basin and on the Reservation. The Tribe further stated that another way to redress environmental injustice is to establish a trust fund to promote cleaner air for Tribal members. The Tribe then stated that it stands behind the 2015 comments and continues to look to its federal trustee to ensure critical protections are implemented, including establishing a trust fund. The EPA has prepared this EJ Analysis in response to the Ute Indian Tribe’s comments and concerns.

IV. Environmental Justice Analysis

Executive Order 12898¹¹ directs federal agencies “to the greatest extent practicable and permitted by law,” to “make achieving environmental justice part of its mission by identifying and addressing as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income

⁹ Deseret submitted minor comments prior to the hearing and representatives joined the hearing but did not make additional comments at the hearing. No Tribal government representatives or members of the general public attended the hearing or submitted comments during the formal comment period.

¹⁰ The EPA is exercising its discretion to consider the Tribe’s comments even though they were submitted after the comment period closed.

¹¹ EO12898, 59 Fed. Reg. at 7629.

populations.” Executive Order 14096¹² reinforces the federal government’s commitment to advancing environmental justice, equity, and civil rights, establishing a policy that every person must have clean air to breathe; clean water to drink; safe and healthy foods to eat; and an environment that is healthy, sustainable, climate-resilient, and free from harmful pollution and chemical exposure. The Order further recognizes that communities with environmental justice concerns exist in all areas of the country, including urban and rural areas and areas within the boundaries of Tribal Nations and U.S. Territories. Executive Order 14008¹³ further directs federal agencies to “to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.” In addition, Executive Order 13985¹⁴ calls on each federal agency to “pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality.” Accordingly, advancing environmental justice and equity is an EPA priority as set forth in the Agency’s Fiscal Year 2022-2026 Strategic Plan.¹⁵

Consistent with these Executive Orders and the EPA policies, this EJ Analysis evaluates potential EJ concerns including the concerns raised by the Tribe related to air quality and other media. Section A discusses the results of EPA’s Environmental Justice screening and mapping tool (i.e., EJScreen¹⁶) as well as additional relevant information as a first step to considering EJ concerns. The EJ Analysis then discusses air quality in the Uinta Basin in Section B, and other media concerns raised by the Tribe relevant to Bonanza in Section C. Section D addresses the Tribe’s request for a trust fund to promote cleaner air for Tribal members.

A. The Potentially Affected Community

EJScreen

EJScreen provides users with a nationally consistent dataset and approach for combining and comparing environmental and demographic indicators. The EPA evaluated the EJScreen 2.1 results for multiple distances from Bonanza: a five-mile radius, a ten-mile radius, and for the entire census block group of approximately 2,626 square miles around the facility. No population residing within a five-mile or ten-mile radius was identified. To more fully consider the Tribe’s concerns and better understand the surrounding community, EPA expanded its screening to the full census block group in which Bonanza is located (blockgroup FIPS code 490479402011). (The EJScreen Reports can be found in the Appendix).

The census block group has an estimated a population of 411 people and falls entirely within the boundaries of the Uintah and Ouray Indian Reservation. EJScreen includes 12 EJ Indexes which

¹² EO 14096, 88 Fed. Reg. at 25251.

¹³ Executive Order 14008, Tackling the Climate Crisis at Home and Abroad, 86 Fed. Reg. 7619, 7629 (Feb. 1, 2021).

¹⁴ Executive Order 13985, Advancing Racial Equity and Support for Underserved Communities through the Federal Government, 86 Fed. Reg. 7009 (Jan. 25, 2021).

¹⁵ EPA Strategic Plan FY 2022-FY 2026, U.S. Environmental Protection Agency (March 28, 2022), <https://www.epa.gov/planandbudget/strategicplan>.

¹⁶ <https://www.epa.gov/ejscreen>.

are calculated by combining data for 12 environmental indicators in the tool with demographic data for the area. Two of the 12 EJ Indexes in the EJScreen Report for the area surrounding the facility are at or above the 80th percentile when compared to the rest of the State. These indexes are air toxics cancer risk and lead paint. According to EJScreen, the population in the census block group is disproportionately low income (57% compared to 25% for the State), people of color (52% compared to 22% for the State) and includes persons with limited English proficiency. An estimated 4% of the population in the area are considered to be from Limited English-Speaking Households (twice the State average). Additionally, the unemployment rate in the area is 10%, which is over twice the 4% rate for the State of Utah.

Health Disparities

According to EJScreen, the census tract in which the facility is located is in the 77th percentile for low life expectancy (this means that 23% of census tracts in the U.S. have a lower result for life expectancy).¹⁷ The heart disease prevalence among adults 18 or older for the census tract is also in the 77th percentile.¹⁸ Finally, the asthma prevalence among adults 18 or older for this census tract is in the 96th percentile.¹⁹

Critical Service Gaps

A large portion of the southeastern half of Utah (including the area in the vicinity of Bonanza) is considered Medically Underserved. Medically Underserved Areas/Populations are areas or populations designated by U.S. Health Resources & Services Administration as having too few primary care providers, high infant mortality, high poverty, or a high elderly population.²⁰ Additionally, households in the census block group with limited broadband access are in the 88th percentile compared to the rest of the U.S., which means only 12 percent of the household nationwide are lacking a broadband internet subscription compared to 88 percent of households in the census block group.²¹

Climate Impacts

The climate division in the vicinity of Bonanza (as defined by the National Oceanic and Atmospheric Administration and which includes the census block group in which Bonanza is located) has experienced a 1.1% decrease in moisture from 1900 to 2020.²² The household risk of wildfire exposure for the population in the block group under 2022 weather conditions ranks at

¹⁷ The National Association for Public Health Statistics and Information Systems and the Robert Wood Johnson Foundation, U.S. Small Area Life Expectancy Estimates Project, <https://www.cdc.gov/nchs/nvss/usaleep/usaleep.html> (last visited April 18, 2023) (this data is available at the tract level).

¹⁸ Center for Disease Control, PLACES: Local Data for Better Health (April 12, 2023), <https://www.cdc.gov/places/index.html> (last visited April 18, 2023) (the term "heart disease" refers to several types of heart conditions).

¹⁹ *Id.*

²⁰ Health Resources & Services Admin, What is Shortage Designation?, (April 2023), <https://bhwh.hrsa.gov/workforce-shortage-areas/shortage-designation#mups> (last visited April 18, 2023).

²¹ EJScreen community report for block group 90479402011, included in Appendix.

²² U.S. Environmental Protection Agency, Office of Air and Radiation ArcGIS Drought MapServer, https://geodata.epa.gov/arcgis/rest/services/OAR_OAP/Drought/MapServer (last visited April 18, 2023).

45th percentile compared to the state and 85th percentile compared to the U.S. The household risk of flooding in the block group under 2022 weather conditions ranks at 72nd percentile compared to the state and 68th percentile compared to the U.S.²³.

Additional Climate Change Information

The Fourth National Climate Assessment (Fourth NCA) includes information on climate change impacts in the Southwest Region of the United States, which includes Utah.²⁴ The Southwest Regional chapter describes ongoing and projected increases in temperatures, increasing water scarcity and drought, and impacts on ecosystems, food, and human health.

The Report includes information on climate impacts to rural populations as well as Indigenous Peoples. Traditional foods, natural resource-based livelihoods, cultural resources, and spiritual well-being of Indigenous Peoples in the Southwest are increasingly affected by heat, drought, and wildfire. Because future changes would further disrupt the ecosystems on which Indigenous Peoples depend, tribes are implementing adaptation measures and emissions reduction actions. In addition to drought, wildfires affect traditional resources, including fish, wildlife, and plants, such as tanoaks and beargrass, upon which some Southwest tribes rely for food and cultural uses. Droughts in the Southwest have contributed to declines in traditional Indigenous staple foods, including acorns, corn, and pine nuts. Drought and increasing heat intensify the arid conditions of reservations where the United States restricted some tribal nations in the Southwest region to the driest portions of their traditional homelands.²⁵

Climate change can adversely impact rural populations, people with disabilities,²⁶ Tribes and Indigenous Peoples,²⁷ people of color, and low-income communities,²⁸ who may already be experiencing disproportionate adverse environmental impacts and related health conditions. Further, In September 2021, the EPA released a report entitled, *Climate Change and Social Vulnerability in the United States: A Focus on Six Impact Sectors*, an environmental justice study that looks at how projected climate change impacts may be distributed across the American public. The analysis shows that the most severe harms from climate change fall disproportionately upon underserved communities who are least able to prepare for, and recover from, heat waves, poor air quality, flooding, and other impacts. The EPA's analysis indicates that

²³ See Climate Indicators section in EJSscreen Report included in the Appendix.

²⁴ See also, FEMA Flood Map Service Area website that shows the facility in proximity to a "Special Flood Hazard Area," <https://msc.fema.gov/portal/search?AddressQuery=Bonanza%20Power%20Plant> (accessed July 31, 2023).

²⁵ See generally, Fourth National Climate Assessment (NCA), Chapter 25: Southwest, <https://nca2018.globalchange.gov/chapter/25/> (last visited April 17, 2023).

²⁶ Penelope J.S. Stein et al, Climate Change and the Right to Health for People with Disabilities, 10 *The Lancet Public Health* 1 (Dec. 2, 2021), [https://www.thelancet.com/journals/langlo/article/PIIS2214-109X\(21\)00542-8/fulltext](https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(21)00542-8/fulltext) (last visited April 17, 2023).

²⁷ See generally, Fourth NCA, Chapter 15: Tribes and Indigenous Peoples, <https://nca2018.globalchange.gov/chapter/15/>.

²⁸ *Id.* Chapter 14: Human Health, https://nca2018.globalchange.gov/downloads/NCA4_Ch14_Human-Health_Full.pdf.

racial and ethnic minority communities are particularly vulnerable to the greatest impacts of climate change.²⁹

As described in more detail above, the information in the EPA's EJScreen indicates the population in the census block group is disproportionately low income, people of color, and includes persons from Limited English-Speaking Households. The entire census block group falls within the exterior boundaries of the Uintah and Ouray Indian Reservation. Two of the 12 EJ Indexes in the Report for the area surrounding the facility are at or above the 80th percentile when compared to the rest of the State. The health disparities percentages for low life expectancy, heart disease, and asthma are all elevated in comparison to other census tracts in the U.S. Thus, the EJScreen information indicates that communities in the census block group may be disproportionately impacted by total pollution, non-pollution, and climate change burdens. These same communities may also be disproportionately vulnerable to climate change impacts.³⁰

Ozone

The ozone metric in EJScreen represents the summertime average because summer ozone formation is most common nationally. Thus, the summertime average ozone metric does not reflect the elevated wintertime ozone in the Uinta Basin.³¹ Indeed, as discussed more below, the Uinta Basin is designated as nonattainment for the 2015 ozone national ambient air quality standard (NAAQS). To supplement the information in EJScreen, Table 1 reports the 2018-2020 ozone design values for the air quality monitors in the Uinta Basin in relation to the national percentile. Table 1 shows that the two monitors with 2018-2020 design values exceeding the 2015 ozone NAAQS (70 ppb), the Roosevelt and Ouray monitors, also rank above the 80th percentile nationally.

²⁹ Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts, U.S. Environmental Protection Agency, EPA 430-R-21-003 (Sept. 2021), https://www.epa.gov/system/files/documents/2021-09/climate-vulnerability_september-2021_508.pdf

³⁰ As noted in the permitting background, the facility emits approximately 3.5 million tons of CO₂ per year. While the EPA's CAA title V permit does not regulate GHG emissions, the facility's GHG emissions contribute incrementally to climate change.

³¹ The Uinta Basin is the only area in the state that is designated nonattainment based on regulatory monitor design values averaged from wintertime ozone measurements and is currently the only ozone nonattainment area.

Table 1. 2018-2020 Ozone Design Values for Air Quality Monitors in the Uinta Basin Relative to the National Percentiles

Ozone Monitor Site Name (AQS ID)	2018-2020 Ozone Design Value ^{a,b}	National Percentile ^c
Roosevelt (490130002)	73	88 ^{th*}
Myton (490137011)	69	77 th
Dinosaur National Monument (490471002)	66	63 rd
Vernal 2 (490171004)	65	57 th
Redwash (490472002)	69	77 th
Ouray (490472003)	76	92 ^{nd*}
Whiterocks (490477022)	67	69 th

^a Design value information from <https://www.epa.gov/air-trends/air-quality-design-values#report>, accessed December 16, 2021.

^b Bold indicates design value exceeds the 2015 ozone NAAQS of 70 ppb.

^c Indicates a value is at or above the 80th percentile for the U.S.

B. Air Quality

This section of the EJ analysis includes information on air quality in the Uinta Basin, which includes the Uintah and Ouray Indian Reservation, to facilitate an understanding of existing air quality, primary sources of air emissions, and regulatory efforts to address air quality concerns.

In June of 2016, the EPA finalized a Federal Implementation Plan (FIP) for True Minor Sources in Indian Country in the Oil and Natural Gas Processing Segments of the Oil and Natural Gas Sector (National O&NG FIP). However, this National O&NG FIP did not apply in nonattainment areas. On April 30, 2018, the EPA designated the Uinta Basin as nonattainment for the 2015 ozone national ambient air quality standard (NAAQS). On May 14, 2019, the EPA amended the National O&NG FIP to apply in portions of the Uintah and Ouray Indian Reservation that are included in the Uinta Basin Ozone Nonattainment Area.³² The amendment stated that the EPA intended to develop a FIP specific to the Uintah and Ouray Indian Reservation to address air quality concerns. On December 8, 2022, the EPA finalized the U&O Oil and Natural Gas FIP (U&O FIP).³³ The U&O FIP became effective on February 6, 2023.

Ozone levels in the Uinta Basin have exceeded the EPA’s 2008 and 2015 ozone NAAQS multiple times in recent winters. Although 2020 to 2022 ozone levels were generally lower than the preceding years, 2023 had unusually high snow depth and more intense winter inversion episodes. Several monitors in the basin have preliminary data with fourth highest eight-hour average ozone greater than 90 ppb in February to March 2023. Based on the preliminary data, the 2021-2023 ozone design values will violate the 2015 NAAQS at 6 monitors and the 2008 NAAQS at three monitors. Given the high ozone levels in 2023, the 2024 to 2027 data is the earliest possible date that the basin might have monitored ozone levels below the NAAQS. The area remains in nonattainment status, with ozone remaining a significant public health concern.

³² Amendments to Federal Implementation Plan for Managing Air Emissions from True Minor Sources in Indian Country in the Oil and Natural Gas Production and Natural Gas Processing Segments of the Oil and Natural Gas Sector, 84 Fed. Reg. 21240 (May 14, 2019).

³³ Federal Implementation Plan for Managing Emissions from Oil and Natural Gas Sources on Indian Country Lands within the Uintah and Ouray Indian Reservation in Utah, 87 Fed. Reg. 75334 (Dec. 8, 2022).

To address the Tribe's concerns regarding air quality impacts from Bonanza, the EPA Region 8 considered using a photochemical grid model. However, as discussed in peer reviewed literature and discussed thoroughly in the Uinta Basin Final Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document (TSD),³⁴ photochemical models have performed poorly in the Uinta Basin with large negative bias for ozone and VOC compared to measured ambient concentrations. The negative bias for ozone and VOC was caused primarily by errors and uncertainty in the oil and gas VOC emissions inventory. Therefore, the EPA continues to rely on research in the Basin that uses instrumentation and analog studies as opposed to computer-based modeling when reviewing the localized ozone concerns. This section will discuss air quality within the vicinity of Bonanza using these ground-based studies.

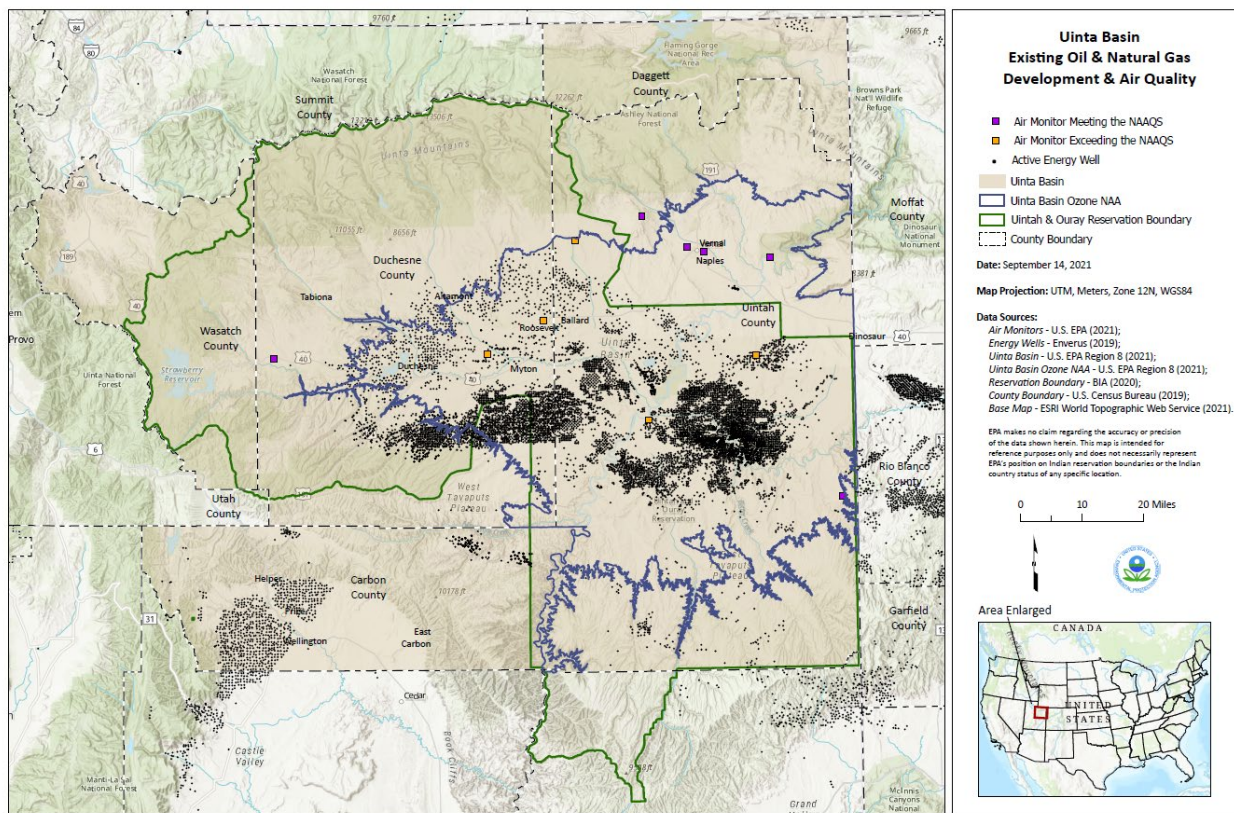
Based on the results of the 2013 Uinta Basin Ozone Study (UBOS), the EPA does not believe Bonanza's emissions significantly contribute to wintertime ozone formation in the Basin. The inversion height in the Uinta Basin and the Bonanza stack height are important considerations in assessing Bonanza's contribution to ozone formation during wintertime ozone events. The inversion height during a winter ozone episode is below 300 meters, while the effective stack height of Bonanza is 600 meters, as mentioned in the Statement of Basis document for the draft title V renewal permit for Bonanza³⁵. During the 2013 UBOS study extensive measurement studies were carried to determine if the Bonanza contributed to winter ozone formation. These included aircraft flights and balloon studies to measure transport of the plume. The UBOS study concluded that the emissions from Bonanza were injected above the height of the inversion layer, meaning that they will not be well-mixed with the air below, which is where the ozone forms in the Basin. By contrast, it is more probable that the inversion layer traps oil and gas emissions in the Basin, such as from the wells, pipelines, and compressor stations, which have much lower stack heights (typically 10 meters at most). These lower-level emissions do not have the height, velocity, or temperature to escape the inversion layer.

As shown in Figure 1, the air quality monitors with design values that exceed the 2015 ozone NAAQS are generally located near the highest density of producing oil and natural gas wells.

³⁴ See Northern Wasatch Front, Southern Wasatch Front, and Uinta Basin Final Area Designations for the 2015 Ozone National Ambient Air Quality Standards Technical Support Document, at https://www.epa.gov/sites/default/files/2018-05/documents/ut_tsd_final.pdf

³⁵ EPA Region 8's Statement of Basis for proposed title V renewal permit for Bonanza is available in the administrative record for this action at regulations.gov, Docket ID #EPA-R08-OAR-2019-0350.

Figure 1 Uinta Basin Existing Oil and Natural Gas Development and Air Quality



Accordingly, while the contribution of ozone-forming emissions from Bonanza is not zero, considering the stack height of the NO_x and VOC emissions releases, the inversion layer height, and the small percentage of total Uinta Basin VOC emissions that the plant produces, we do not believe that Bonanza emissions significantly contribute to the wintertime ozone issues in the Uinta Basin.

The 2022 U&O FIP establishes new rules that are expected to reduce VOC emissions from certain new, modified, and existing oil and natural gas facilities on Indian country lands within the U&O Reservation. Within the Uinta Basin, approximately 98% of VOC emissions are from existing oil and natural gas operations. Approximately 70 percent of active producing oil and natural gas wells in the Uinta Basin are on Indian country lands within the U&O Reservation and are subject to the control requirements established in the finalized U&O FIP.

The U&O FIP should reduce adverse health and environmental effects for the affected populations due to reduced exposure to elevated ground level ozone and air toxics resulting from the anticipated reduction of ozone-forming VOC emissions. While the U&O FIP applies only to oil and natural gas sources on Indian country lands within the U&O Reservation, air quality impacts are not limited by those sources or legal boundaries. Therefore, we believe that the VOC emissions reductions expected to occur on the Indian country lands within the U&O Reservation will also improve air quality throughout the Uinta Basin, particularly given that the majority of the existing oil and natural gas sources that primarily contribute to elevated winter ozone in the Uinta Basin are located on Indian country lands. The U&O FIP will improve ozone air quality

and reduce exposure to air toxics on the U&O Reservation and surrounding areas in the Uinta Basin through a reduction of over 27% of the existing ozone-forming VOC emissions. The EPA believes that regulation of oil and gas sources is the most effective way to address ozone-related air quality concerns in the Uinta Basin.

C. Groundwater, Vegetation and Wildlife, and Cultural Resources

In addition to air quality, the Tribe's comments raised concerns about adverse impacts from Bonanza on other resources, including vegetation and wildlife. In response, this section of our analysis includes information on groundwater, cultural resources, wildlife, and plant species.

Groundwater

The EPA's Coal Combustion Residuals (CCR) Rule³⁶ establishes a comprehensive regulatory program to address risks posed by groundwater contamination, structural failures of impoundment dikes, and fugitive dust emissions from fly ash, bottom ash, boiler slag, and flue gas desulfurization materials generated from burning coal for the purpose of generating electricity.³⁷ The CCR Rule imposes location restrictions, design and operating standards, and groundwater, assessment monitoring, and corrective action requirements. These requirements apply to CCR units that dispose of or otherwise engage in solid waste management of CCR generated from the combustion of coal at electric utilities and independent power producers, CCR units both on-site of the utility and off-site locations, and inactive surface impoundments located at active utilities.

For purposes of this EJ Analysis, the EPA reviewed publicly available information on Bonanza's CCR website associated with Bonanza's CCR-required groundwater monitoring network. CCR from Bonanza are placed in two on-site CCR units: the Fly Ash Landfill and the Bottom Ash Landfill. These landfills must comply with the CCR Rule. The Fly Ash Landfill contains primarily fly ash and flue gas desulfurization solids. The Bottom Ash Landfill is used to manage bottom ash and boiler slag from the facility. Bonanza also includes non-CCR liquid impoundments that receive process water from the plant, including the North Evaporation Pond.³⁸

According to Bonanza's Groundwater Monitoring System Certification, Bonanza installed one background/upgradient monitoring well (FA-UG1) north of the Fly Ash Landfill and one downgradient monitoring well (BA-DG1) south of the Bottom Ash Landfill in April 1991. The facility installed the remaining monitoring wells in May 2016 which include: four wells downgradient of the Fly Ash Landfill (FA-DG1 (dry), FA-DG2, FA-DG-3, FA-DG4); one well upgradient of the Bottom Ash Landfill (BA-UG1); and two additional wells downgradient of the Bottom Ash Landfill (BA-DG2, BA-DG3). The facility installed PZ-11, a piezometer (water

³⁶Hazardous and Solid Waste Mgmt. System: Disposal of Coal Combustion Residuals from Electric Utilities, 80 Fed. Reg. 21301 (Apr. 17, 2015); 40 C.F.R. Part 257 Subpart D (257.50-257.107).

³⁷ *Id.*

³⁸ See Deseret Power Electrical Cooperative, Environmental, CCR Rule Compliance Data and Information, <https://apps.deseretpower.com/apex/f?p=400:40:17346958604198::NO> (last visited July 8, 2022).

level well), in August 1984 that was added to the Fly Ash Landfill monitoring network and re-named FA-UG2 in 2018.³⁹

Over the course of spring 2018 through fall 2021 sampling events, several wells in Bonanza's groundwater monitoring network reported concentrations of CCR constituents (fluoride, sulfate, chloride, total dissolved solids, and pH) that qualified as statistically significant increases over background thresholds.⁴⁰ Available groundwater data indicates that most of these constituents have continued to increase since 2018. Bonanza's Groundwater Monitoring and Corrective Action Reports attribute most of these increases to the North Evaporation Pond (NEP)⁴¹ rather than the CCR units. Bonanza's Groundwater Monitoring and Corrective Action Reports attribute pH increases downgradient of the Bottom Ash Landfill to a source other than the CCR units but does not explain the source. Moreover, concentrations of boron in BA-UG1 (downgradient of most facility operations, including the Fly Ash Landfill) are significantly higher than those in shallow groundwater regionally. Bonanza's CCR website documentation provides no explanation for these elevated concentrations. Similarly, concentrations of fluoride in FA-DG2, FA-DG3, and BA-DG3 are higher than the anticipated range of fluoride concentrations in shallow groundwater near Bonanza.

Although Bonanza attributes the NEP as the source of changes in groundwater chemistry, it is unclear exactly what types of waste(water) are collected in the NEP. According to the facility's draft title V permit, "Bonanza is a zero-discharge facility. All wastewater and storm water are collected and re-used where possible. All remaining water is sent to the evaporation ponds where it is impounded."⁴² Without knowing the type or quality of the wastes being disposed of in the NEP, it is difficult to fully understand what impacts infiltration from this impoundment may have on groundwater.

With respect to the proposed action to renew the Deseret Bonanza title V permit, EPA does not anticipate any potential impacts to groundwater from the authorization to continue operations that emit air pollutants. As discussed in the air section, given Bonanza's high stack height at approximately 550 meters, the EPA does not expect Bonanza's air emissions to impact local groundwater resources. This permit does not authorize the discharge of pollutants in wastewater and stormwater to surface or groundwater nor does it authorize the release of additional air pollutant emissions that were not otherwise authorized under the January 7, 2015, MNSR permit. Thus, while Bonanza's CCR units and the North Evaporation Pond may contribute to elevated concentrations of regulated constituents in nearby groundwater and Bonanza's cumulative

³⁹ *Id.*

⁴⁰ *See*, Deseret Power Electrical Cooperative, Environmental, CCR Rule Compliance Data and Information, <https://apps.deseretpower.com/apex/f?p=400:40:17346958604198::NO> (2018, 2019, 2020, and 2021 Groundwater Monitoring and Corrective Action Reports) (last visited July 8, 2022).

⁴¹ Bonanza's original Title V permit V-UO-000004-00.00 (effective date of January 7, 2015), attachment 1-"Bonanza Plant Process Description" along with this renewal application provides a discussion on the facility water supply system plan for the facility. First, all treatment is performed on-site with two cleaning stages. The first is the Water treatment facility that processes the boiler water through a reverse osmosis process. The second is in the turbine building where boiler water is then demineralized. Furthermore, the recirculation of the facility condensate is constantly polished to maintain strict compliance with boiler chemistry. Due to the remote facility location, the Cooperative produces potable water on site and thus is a "zero discharge" site which means that all wastewater and storm water runoff is collected and re-used where possible with any remaining water being sent to the evaporation ponds where it is stored and evaporated.

⁴² *Id.* 34.

environmental burden to the surrounding community, the EPA concludes that the proposed title V permit will have no effect on groundwater.

Vegetation and Wildlife

The Tribe's comments assert that Deseret's operation of the Bonanza Plant has had deleterious impacts on vegetation and wildlife on tribal lands in the surrounding area. For purposes of this section, the EPA reviewed several data sources to provide information on vegetation and wildlife that may be present in the area surrounding the facility.

First, the Tribe's website provides the following information regarding endangered, threatened, and species of special concern:⁴³

- Colorado River Cutthroat Trout: managed under a conservation agreement in the states of Utah, Colorado, and Wyoming. In Utah, this species is designated as a Species of Special Concern because of their declining populations. Colorado River Cutthroat are native to north-eastern Utah watersheds and are the only species of Cutthroat Trout found in the Upper Green River Drainage Basin.
- Colorado Pikeminnow: federally protected under the Endangered Species Act of 1973. Colorado Pikeminnow evolved throughout the Colorado River basin; however, in recent history populations have only been found in the upper Colorado River Drainage Basin. In Utah, wild populations have been found in the Duchesne, Green, and White Rivers.
- Razorback Sucker: federally protected under the Endangered Species Act of 1973. Razorback Sucker evolved throughout the Colorado River basin; however, in recent history populations have only been found in the upper Colorado River Drainage Basin. In Utah, wild populations have been found in the Duchesne, Green, and White Rivers.
- Bonytail: federally protected under the Endangered Species Act of 1973. Bonytail's historic range stretches throughout the Colorado River Basin from as far north as Wyoming and south to Mexico. Wild populations found in Utah are limited to the Green River, a tributary of the Colorado River.
- Roundtail Chub: presently found only in the upper Colorado River drainage basin and the Gila River drainage basin. In Utah, Roundtail Chub are found within the Green River and San Juan River basins.
- Bluehead Sucker: occupy much of the upper Colorado River drainage basin. Bluehead Sucker range in Utah within the Bonneville, Bear River, Snake River, San Juan, and Green River Drainage Basins.
- Flannelmouth Sucker: once abundant throughout the entire Colorado River Basin. At present, Flannelmouth sucker are more commonly found in the upper Colorado River Basin. In Utah, Flannelmouth Sucker are found in major tributary sub-basins of the Colorado River including the Green River, San Juan River, and Virgin River.

⁴³ Ute Indian Tribe, Species, available at <https://www.utetribe.com/fisheries/species.html> (last visited July 8, 2022).

In addition, the Tribe's website also links to a Ten Tribes Partnership page entitled, *Plants and Animals of the Colorado River Basin*, and includes the following information:⁴⁴

- **Burrowing Owl:** a small, long-legged owl found throughout open landscapes of North and South America in grasslands, rangelands, agricultural areas, deserts, or any other open dry area with low vegetation. As the name suggests, they nest and roost in burrows such as abandoned rodent holes and prairie dog colonies. Their brown mottled feathers help them blend into the surrounding prairie where they dine on insects, small mammals, amphibians, reptiles, and other birds, depending on the season and food availability. Populations of burrowing owls are declining in some areas due to pesticide use, poisoning of prairie dog colonies, and automobile collisions. Conservation concerns differ by region, and in various states they are listed as endangered, threatened, or as a species of concern. They also are of conservation concern in Canada and Mexico.
- **Bonytail Chub:** a freshwater fish native to the Colorado River basin of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming in the southwestern United States. It is the rarest of the endangered, native fish of the Colorado River and is thought to have evolved around 3-5 million years ago. Bonytail chub can grow to over 2 feet long and, like many desert fishes, its coloring tends to be darker above and lighter below, serving as a camouflage. This fish species prefers backwaters with rocky or muddy bottoms and flowing pools, although they have been reported in swiftly moving water. They are mostly restricted to rocky canyons today but were historically abundant in the wide downstream sections of rivers.
- **Cottonwood trees:** grow along streams and moist areas at elevations from 150 to 6,000 feet and are used by beavers for food and dam-building. Traditionally, cottonwood leaves are boiled and placed on sprains, bruises, and broken bones to reduce swelling. Further, cottonwood leaves can be boiled and used as medicine to clean the eyes. This tree also commonly used to make raised platforms and to protect food stores from animals and flooding.
- **Goodding Willow:** grows up to 45 feet tall, typically along streams at elevations below 7,000 feet. This tree has gray bark with yellow twigs, and shiny green, finely toothed leaves. The deep root system prevents stream erosion. This fibrous wood is used to make bows, build homes, and for gourd rattle handles. The strong roots are used to construct cradleboards and the bark is used to make skirts or is stripped and boiled to treat sore throats.
- **Desert Bighorn:** a subspecies of bighorn sheep that is native to the deserts of the United States' intermountain west and southwestern regions, as well as northwestern Mexico. They are commonly seen on steep terrain and cliffs such as canyons. They live throughout the American Southwest including the Grand Canyon, Mojave Desert, and Sonoran Desert. This species is highly adapted for desert climate to both hot and cold weather. They can go for extended periods without drinking for up to weeks or months at

⁴⁴ Ten Tribes Partnership, *Plants and Animals of the Colorado River Basin*, available at <https://tentribespartnership.org/wildlife/> (last visited July 8, 2022).

a time. They sustain their body moisture from food and rainwater collected in temporary rock pools and often rest in the shade of trees and caves during the heat of the day.

- **Mexican Gray Wolf:** native to the mountainous woodlands of the southwestern United States and northern Mexico, the Mexican gray wolf (commonly known as ‘lobo’) is one of the most endangered mammals in North America. By the mid-1980s, hunting, trapping, and poisoning caused the downfall and drastic decrease of this subspecies in the wild. In 1998 the wolves were reintroduced into the wild as part of a federal reintroduction programs under the Endangered Species Act. An estimated 2 million gray wolves, including thousands of Mexican gray wolves, originally inhabited North America. Today in the U.S. there is a single wild population of Mexican gray wolves comprising of only 131 individuals, an increase from the 114 counted towards the end of 2017.
- **Honey Mesquite:** grows up to 20 feet in height, typically at elevations below 4,500 feet. With twisted and spiny branches, this tree has small yellowish leaves and flowers that grow in dense 2-inch clusters with the bark growing in long, fibrous strips. Traditionally, Honey Mesquite beans are dried and eaten, with pods often chewed as a sweet snack or stored as winter foods. The pods were also used to ground into a meal for bread making known as lazy bread (kumułł uchap). In addition to pods, the remainder of the tree was also used to make tools such as baskets with the sap commonly used as hair conditioner, and dye, paint, stain, and even medicine.
- **Screwbean Mesquite:** grows up to 20 feet in height at elevations below 4,000 feet. Similar to Honey Mesquite, Screwbean branches are twisted and spiny with bark growing in long, fibrous strips. Small yellow flowers grow in crowded clusters with tightly coiled spiral pods on stalks. This tree is traditionally used for firewood or to make war clubs. The fibrous roots are shredded for tools and clothing such as cradles, baskets, and women’s dresses. The bean pods are regularly eaten and stored as winter food, crushed for tea, or even chewed like candy.
- **Yuma Clapper Rail:** an endangered subspecies of seven North American clapper rails generally found in freshwater marshes. They feed on crayfish, small fish, clams, isopods, and a variety of insects. Yuma clapper rails range from northern California along the Pacific coast to central Mexico and have been sighted along the Colorado River where Nevada, Arizona, and California meet. A survey conducted in 1969 and 1970 estimated about 700 breeding birds in the United States. Although the rail population appears to be stable, its future is tied to the various water projects along the Colorado River. The key to maintaining or expanding the rail population is maintaining early growth stages of cattail marsh by creating shallow water areas that serve as nesting places for this species.
- **Southwestern Willow Flycatcher:** a federally endangered bird that breeds in dense riparian vegetation near surface water or saturated soils in the American Southwest. Their breeding habitat currently ranges from southern California, through southern Nevada, southern Utah, Arizona, New Mexico, and southwestern Colorado. One of the primary reasons for the decline of this species is the loss and degradation of suitable, native riparian habitat throughout the region. Dams, water diversion for agriculture, and groundwater pumping all have altered streamflow and thus riparian vegetation.

The EPA does not expect the proposed action renewing the Deseret Bonanza title V permit will affect wildlife or vegetation. As indicated in the air quality section of this analysis, given Bonanza's high stack height at 600 meters, the air pollutant emissions from this facility are not expected to impact air quality in the localized area and thus would not result in localized dispersion of pollutants to terrestrial resources. Furthermore, this permit does not authorize new construction or other activities that might introduce impacts to wildlife or vegetation in the area surrounding the facility, including on Indian country lands.

Cultural Resources

The EPA Region 8 reviewed the permit renewal for potential impacts on historic properties. Because the activities authorized by the EPA permit are not expected to involve any new ground disturbance, this project does not have the potential to cause effects on historic properties, if any are present. Therefore, the EPA has no further obligations under Section 106 of the National Historic Preservation Act or 36 C.F.R. part 800.⁴⁵

D. Environmental Justice Grants

In response to the Tribe's request for funding, the EPA encourages the Tribe to apply, as appropriate, for environmental justice grants available through the EPA Office of Environmental Justice (OEJ). Current information about the availability of EJ grants can be found on the EPA's website.⁴⁶ Tribes may also access information about opportunities for EJ and other EPA grants through the EPA Region 8's Tribal Resource Center. If the Tribe is interested, the Region 8 Children's Health, Equity, and Environmental Justice branch offers to meet with Tribal government representatives to discuss potential EJ funding opportunities.

V. Conclusion

The EPA's EJScreen information indicates that there is no population reported as residing within a five-mile or ten-mile radius of the facility. Thus, the EPA did not identify a potentially impacted community in the immediate vicinity of the facility. To more fully consider the Tribe's concerns and better understand the surrounding community, EPA expanded its screening to the full census block group in which Bonanza is located (blockgroup FIPS code 490479402011) which covers approximately 2,626 square miles around the facility. (The census block group EJScreen Report can be found in the Appendix.

As indicated in the analysis, communities within the entire census block group in which Bonanza is located may be disproportionately impacted by total pollution, non-pollution, and climate change burdens. However, as indicated in the air quality section of this analysis, the air pollutant emissions from this facility are not expected to impact air quality in the localized area, including in the census block area. As discussed, the air emissions from the facility would not significantly

⁴⁵ See 36 C.F.R. § 800.3(a)(1).

⁴⁶ U.S. Environmental Protection Agency, Environmental Justice Grants, Funding and Technical Assistance, <https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance> (last visited April 18, 2023).

contribute to wintertime ozone formation in the Basin due to the relatively minimal VOC emissions, the inversion height in the Uinta Basin, and the stack height at the Bonanza facility. The EPA also reviewed the title V permit renewal requirements regarding testing, monitoring, recordkeeping, reporting, and other provisions, and found them to be sufficiently adequate to assure compliance with applicable requirements.

Monitored emissions data from Bonanza can be accessed online at: <https://campd.epa.gov/>. Instructions for locating Bonanza emissions data is as follows:

1. On the middle of the homepage of “Clean Air Markets Program Data,” click on “start your data query”;
2. On the left hand side of the page, under “Data Type,” select “Emissions from the first drop down menu;
3. Under the “Data Subtype” drop down menu, select the timeframe for emissions data. This is reported as “Annual Emissions,” “Daily Emissions,” “Monthly Emissions,” “Quarterly Emissions,” or “Ozone Season Emissions.” This example will follow the steps for selecting “Annual Emissions;”
4. Under the “Aggregation” drop down menu, select “Facility” and then this will bring you to another set of drop-down menus labeled “Filters”
5. Under “Time Period” select the desired time frame for emissions data. For example, you can enter “2017-2022” and then click “Apply Filter;”
6. Under the drop-down menu for “Facility” type in “Bonanza (7790)” and click on the facility name when it appears in the drop-down menu. Then click “apply filter;”
7. On the top right side of the webpage, click on “Preview Data;”
8. If you selected for “Annual Emissions” in step 3, then this will bring up aggregate annual emissions data for SO₂, CO₂, and NO_x emissions from Bonanza. If you selected for an hourly or daily emissions rate in Step 3, then this will bring up more granular data for those timeframes; and
9. This data can be downloaded by clicking “Download” on the top right of the webpage.

EPA Region 8’s Air and Radiation Division may be contacted for further assistance in accessing the data at R8airpermitting@epa.gov.

EPA’s Enforcement and Compliance History Online database may be used to search for facilities to assess their compliance with environmental regulations. <https://echo.epa.gov/> Information for this facility can be found by typing “bonanza power plant” into the facility search area.

Appendix

EJScreen Reports

DRAFT



EJScreen Report (Version 2.11)



5 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8

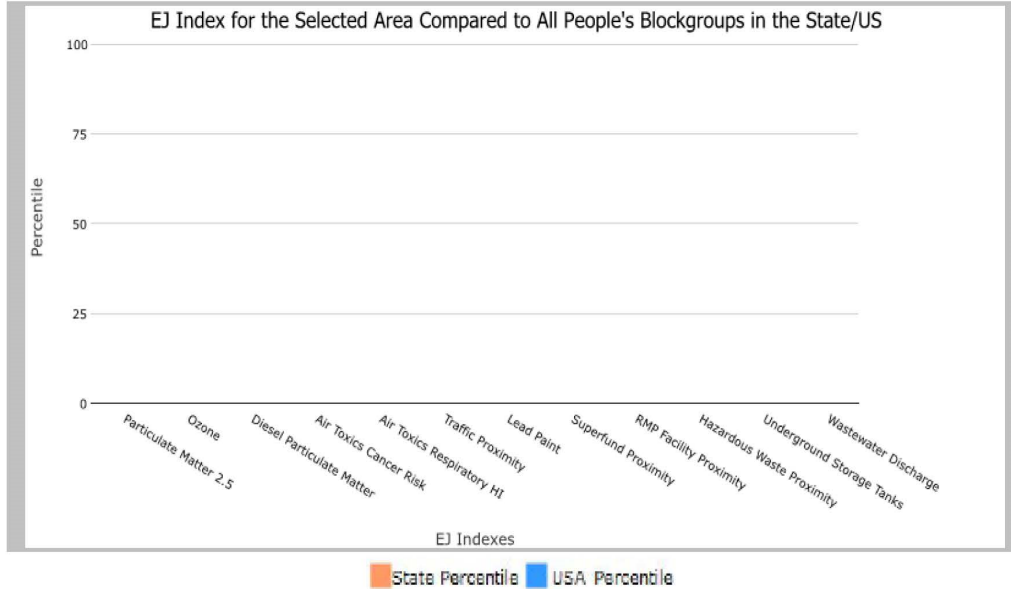
Approximate Population: 0

Input Area (sq. miles): 78.53

Deseret Bonanza Power Plant

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	N/A	N/A
Ozone EJ index	N/A	N/A
Diesel Particulate Matter EJ index*	N/A	N/A
Air Toxics Cancer Risk EJ index*	N/A	N/A
Air Toxics Respiratory HI EJ index*	N/A	N/A
Traffic Proximity EJ index	N/A	N/A
Lead Paint EJ index	N/A	N/A
Superfund Proximity EJ index	N/A	N/A
RMP Facility Proximity EJ index	N/A	N/A
Hazardous Waste Proximity EJ index	N/A	N/A
Underground Storage Tanks EJ index	N/A	N/A
Wastewater Discharge EJ index	N/A	N/A

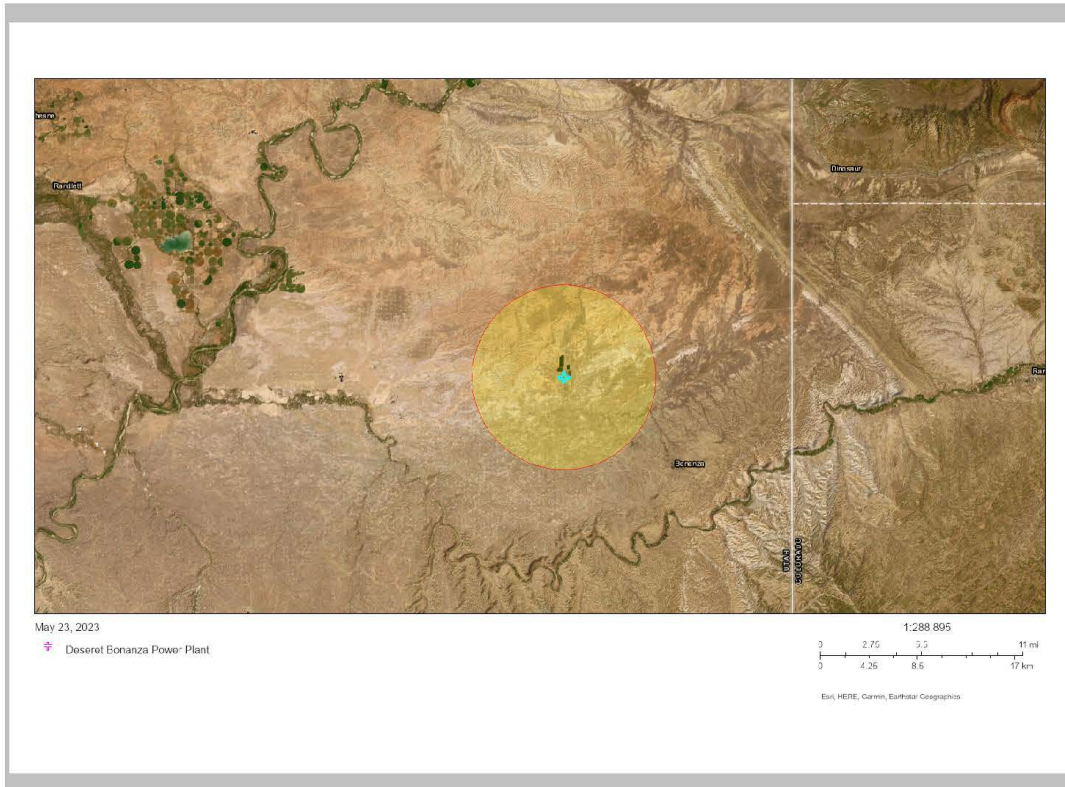
EJ Indexes - The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.



*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

5 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8

Approximate Population: 0
Input Area (sq. miles): 78.53
Deseret Bonanza Power Plant



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0



EJScreen Report (Version 2.11)



5 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8

Approximate Population: 0

Input Area (sq. miles): 78.53

Deseret Bonanza Power Plant

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	N/A	7.53	N/A	8.67	N/A
Ozone (ppb)	N/A	57.7	N/A	42.5	N/A
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	N/A	0.242	N/A	0.294	N/A
Air Toxics Cancer Risk* (lifetime risk per million)	N/A	20	N/A	28	N/A
Air Toxics Respiratory HI*	N/A	0.29	N/A	0.36	N/A
Traffic Proximity (daily traffic count/distance to road)	N/A	720	N/A	760	N/A
Lead Paint (% Pre-1960 Housing)	N/A	0.17	N/A	0.27	N/A
Superfund Proximity (site count/km distance)	N/A	0.18	N/A	0.13	N/A
RMP Facility Proximity (facility count/km distance)	N/A	0.6	N/A	0.77	N/A
Hazardous Waste Proximity (facility count/km distance)	N/A	0.91	N/A	2.2	N/A
Underground Storage Tanks (count/km ²)	N/A	2.3	N/A	3.9	N/A
Wastewater Discharge (toxicity-weighted concentration/m distance)	N/A	16	N/A	12	N/A
Socioeconomic Indicators					
Demographic Index	N/A	24%	N/A	35%	N/A
Supplemental Demographic Index	N/A	11%	N/A	15%	N/A
People of Color	N/A	22%	N/A	40%	N/A
Low Income	N/A	25%	N/A	30%	N/A
Unemployment Rate	N/A	4%	N/A	5%	N/A
Limited English Speaking Households	N/A	2%	N/A	5%	N/A
Less Than High School Education	N/A	7%	N/A	12%	N/A
Under Age 5	N/A	8%	N/A	6%	N/A
Over Age 64	N/A	11%	N/A	16%	N/A
Low Life Expectancy	N/A	19%	N/A	20%	N/A

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

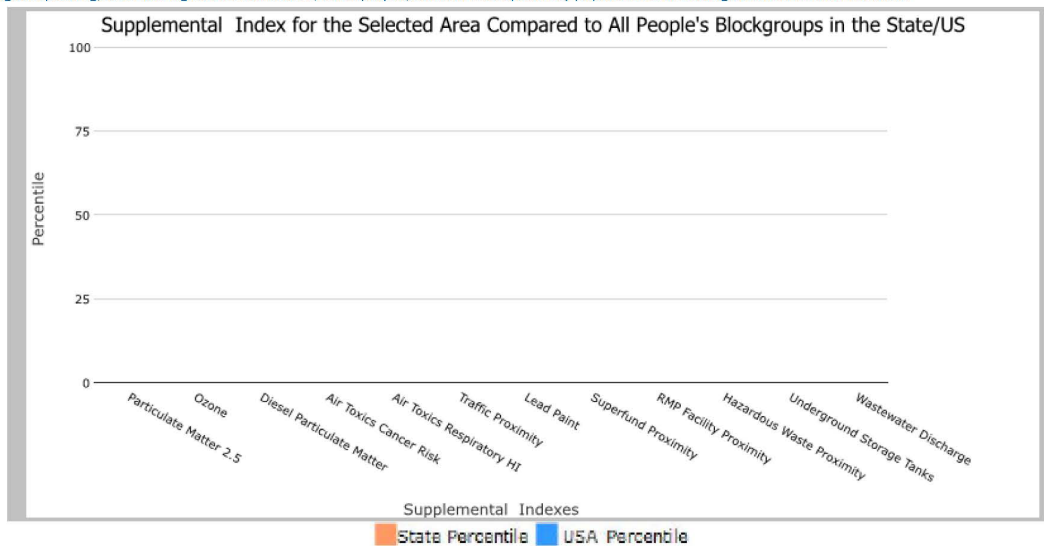
May 23, 2023

3/4

5 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8
Approximate Population: 0
Input Area (sq. miles): 78.53
Deseret Bonanza Power Plant

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	N/A	N/A
Ozone Supplemental Index	N/A	N/A
Diesel Particulate Matter Supplemental Index*	N/A	N/A
Air Toxics Cancer Risk Supplemental Index*	N/A	N/A
Air Toxics Respiratory HI Supplemental Index*	N/A	N/A
Traffic Proximity Supplemental Index	N/A	N/A
Lead Paint Supplemental Index	N/A	N/A
Superfund Proximity Supplemental Index	N/A	N/A
RMP Facility Proximity Supplemental Index	N/A	N/A
Hazardous Waste Proximity Supplemental Index	N/A	N/A
Underground Storage Tanks Supplemental Index	N/A	N/A
Wastewater Discharge Supplemental Index	N/A	N/A

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low-income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.



This report shows the values for environmental and demographic indicators, EJScreen indexes, and supplemental indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. For additional information, see: www.epa.gov/environmentaljustice.



EJScreen Report (Version 2.11)



10 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8

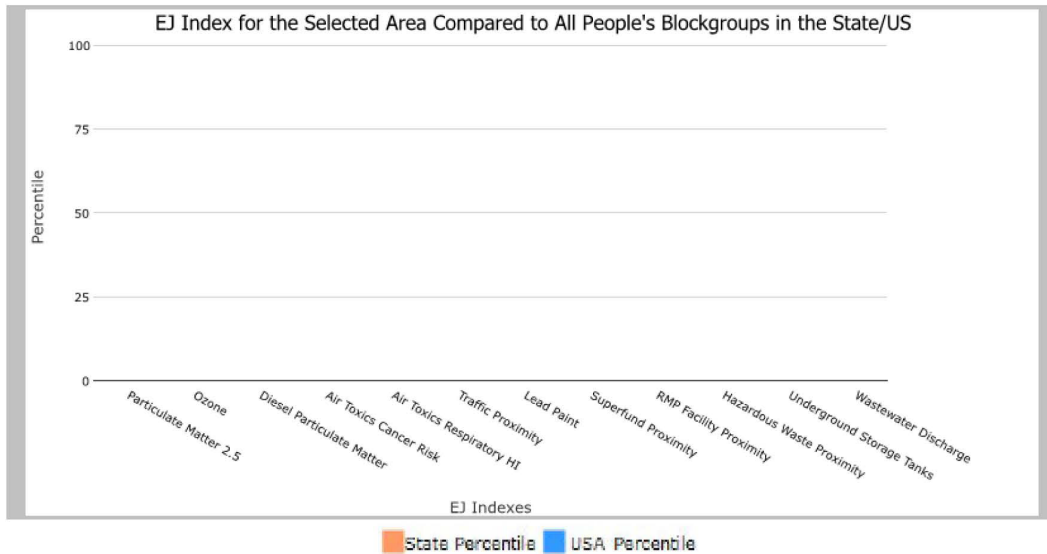
Approximate Population: 0

Input Area (sq. miles): 314.03

Deseret Bonanza Power Plant

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	N/A	N/A
Ozone EJ index	N/A	N/A
Diesel Particulate Matter EJ index*	N/A	N/A
Air Toxics Cancer Risk EJ index*	N/A	N/A
Air Toxics Respiratory HI EJ index*	N/A	N/A
Traffic Proximity EJ index	N/A	N/A
Lead Paint EJ index	N/A	N/A
Superfund Proximity EJ index	N/A	N/A
RMP Facility Proximity EJ index	N/A	N/A
Hazardous Waste Proximity EJ index	N/A	N/A
Underground Storage Tanks EJ index	N/A	N/A
Wastewater Discharge EJ index	N/A	N/A

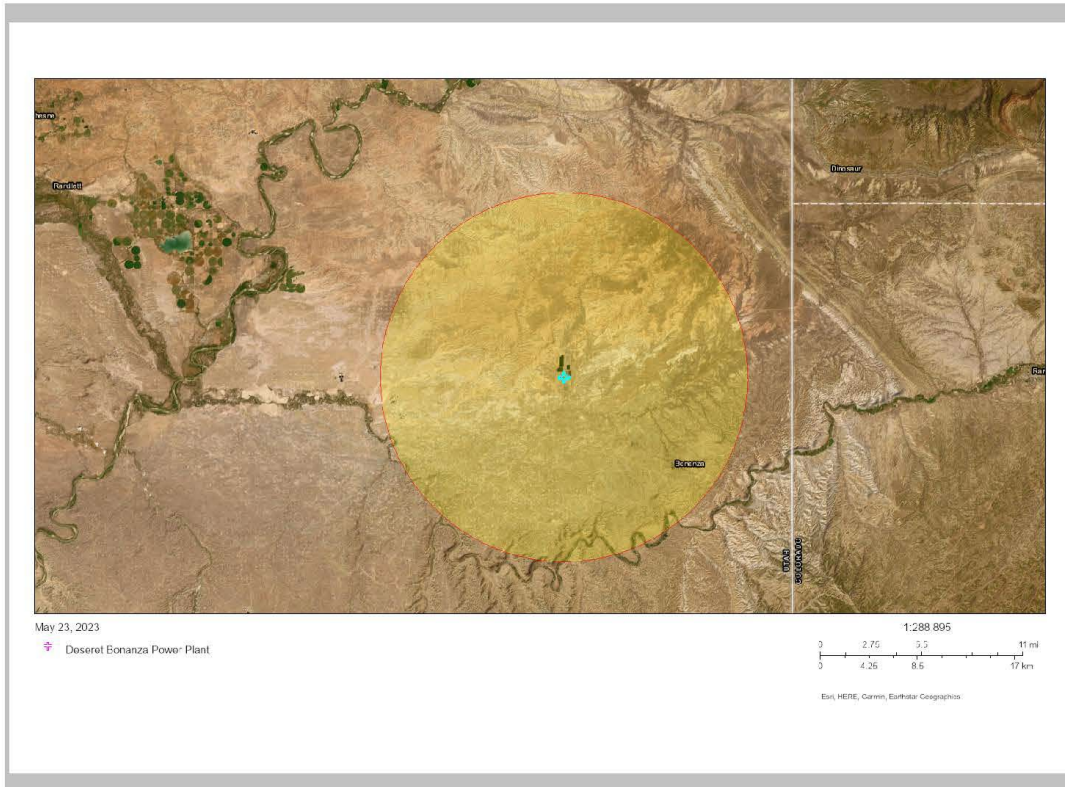
EJ Indexes - The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.



*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

10 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8

Approximate Population: 0
Input Area (sq. miles): 314.03
Deseret Bonanza Power Plant



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0



EJScreen Report (Version 2.11)



10 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8

Approximate Population: 0

Input Area (sq. miles): 314.03

Deseret Bonanza Power Plant

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	N/A	7.53	N/A	8.67	N/A
Ozone (ppb)	N/A	57.7	N/A	42.5	N/A
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	N/A	0.242	N/A	0.294	N/A
Air Toxics Cancer Risk* (lifetime risk per million)	N/A	20	N/A	28	N/A
Air Toxics Respiratory HI*	N/A	0.29	N/A	0.36	N/A
Traffic Proximity (daily traffic count/distance to road)	N/A	720	N/A	760	N/A
Lead Paint (% Pre-1960 Housing)	N/A	0.17	N/A	0.27	N/A
Superfund Proximity (site count/km distance)	N/A	0.18	N/A	0.13	N/A
RMP Facility Proximity (facility count/km distance)	N/A	0.6	N/A	0.77	N/A
Hazardous Waste Proximity (facility count/km distance)	N/A	0.91	N/A	2.2	N/A
Underground Storage Tanks (count/km ²)	N/A	2.3	N/A	3.9	N/A
Wastewater Discharge (toxicity-weighted concentration/m distance)	N/A	16	N/A	12	N/A
Socioeconomic Indicators					
Demographic Index	N/A	24%	N/A	35%	N/A
Supplemental Demographic Index	N/A	11%	N/A	15%	N/A
People of Color	N/A	22%	N/A	40%	N/A
Low Income	N/A	25%	N/A	30%	N/A
Unemployment Rate	N/A	4%	N/A	5%	N/A
Limited English Speaking Households	N/A	2%	N/A	5%	N/A
Less Than High School Education	N/A	7%	N/A	12%	N/A
Under Age 5	N/A	8%	N/A	6%	N/A
Over Age 64	N/A	11%	N/A	16%	N/A
Low Life Expectancy	N/A	19%	N/A	20%	N/A

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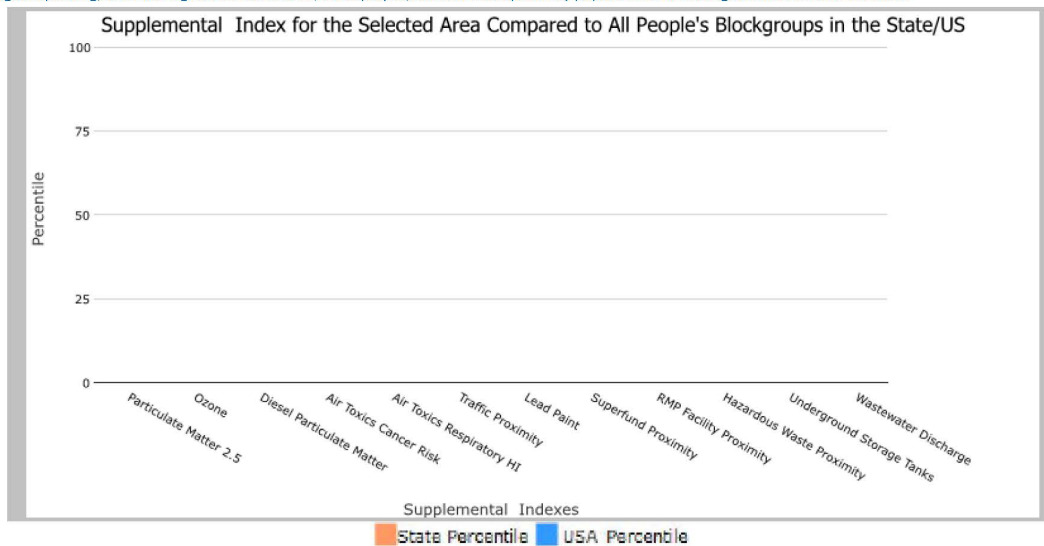
May 23, 2023

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10 miles Ring Centered at 40.086346,-109.284954, UTAH, EPA Region 8
Approximate Population: 0
Input Area (sq. miles): 314.03
Deseret Bonanza Power Plant

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	N/A	N/A
Ozone Supplemental Index	N/A	N/A
Diesel Particulate Matter Supplemental Index*	N/A	N/A
Air Toxics Cancer Risk Supplemental Index*	N/A	N/A
Air Toxics Respiratory HI Supplemental Index*	N/A	N/A
Traffic Proximity Supplemental Index	N/A	N/A
Lead Paint Supplemental Index	N/A	N/A
Superfund Proximity Supplemental Index	N/A	N/A
RMP Facility Proximity Supplemental Index	N/A	N/A
Hazardous Waste Proximity Supplemental Index	N/A	N/A
Underground Storage Tanks Supplemental Index	N/A	N/A
Wastewater Discharge Supplemental Index	N/A	N/A

Supplemental Indexes - The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on low-income, limited English speaking, less than high school education, unemployed, and low life expectancy populations with a single environmental indicator.



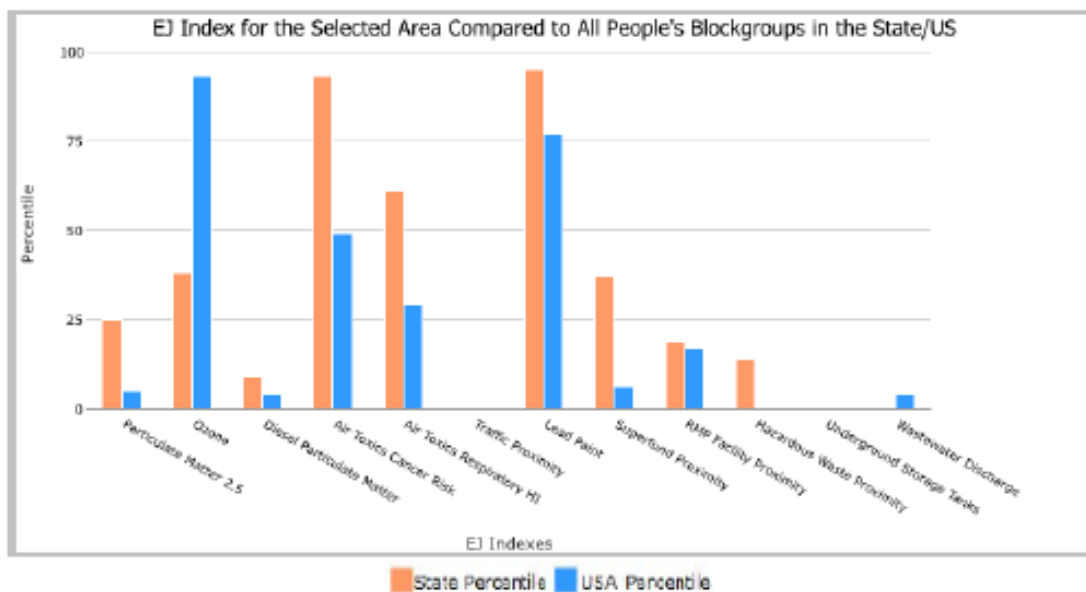
This report shows the values for environmental and demographic indicators, EJScreen indexes, and supplemental indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. For additional information, see: www.epa.gov/environmentaljustice.

Blockgroup: 490479402011, UTAH, EPA Region 8

Approximate Population: 411

Input Area (sq. miles): 2626.45

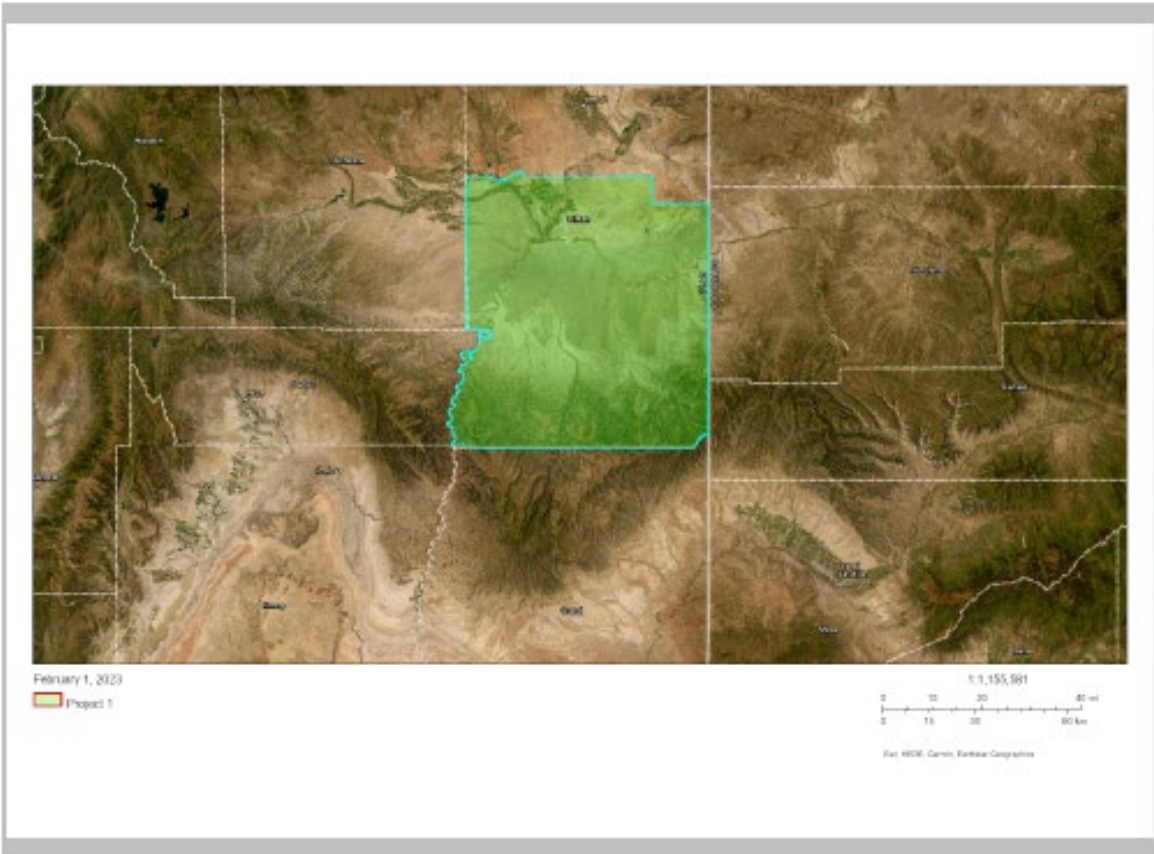
Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	25	5
EJ Index for Ozone	38	93
EJ Index for Diesel Particulate Matter*	9	4
EJ Index for Air Toxics Cancer Risk*	93	49
EJ Index for Air Toxics Respiratory HI*	61	29
EJ Index for Traffic Proximity	N/A	N/A
EJ Index for Lead Paint	95	77
EJ Index for Superfund Proximity	37	6
EJ Index for RMP Facility Proximity	19	17
EJ Index for Hazardous Waste Proximity	14	0
EJ Index for Underground Storage Tanks	0	0
EJ Index for Wastewater Discharge	0	4



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

February 01, 2023

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Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0



EJScreen Report (Version 2.1)

Blockgroup: 490479402011, UTAH, EPA Region 8

Approximate Population: 411

Input Area (sq. miles): 2626.45



Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	5.18	7.53	6	8.67	1
Ozone (ppb)	55.6	57.7	11	42.5	93
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.0231	0.242	2	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	20	20	81	28	<50th
Air Toxics Respiratory HI*	0.2	0.29	30	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	N/A	720	N/A	760	N/A
Lead Paint (% Pre-1960 Housing)	0.23	0.17	69	0.27	50
Superfund Proximity (site count/km distance)	0.0065	0.18	10	0.13	2
RMP Facility Proximity (facility count/km distance)	0.049	0.6	4	0.77	5
Hazardous Waste Proximity (facility count/km distance)	0.01	0.91	3	2.2	0
Underground Storage Tanks (count/km ²)	0	2.3	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	6E-09	16	0	12	1
Socioeconomic Indicators					
Demographic Index	55%	24%	94	35%	78
People of Color	52%	22%	92	40%	68
Low Income	57%	25%	93	30%	86
Unemployment Rate	10%	4%	92	5%	81
Limited English Speaking Households	4%	2%	84	5%	73
Less Than High School Education	21%	7%	93	12%	82
Under Age 5	8%	8%	62	6%	76
Over Age 64	13%	11%	63	16%	41


*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: www.epa.gov/environmentaljustice

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February 01, 2023

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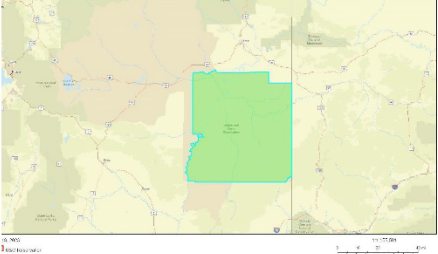


EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Uintah County, UT

Blockgroup: 490479402011
Population: 324
Area in square miles: 2626.45



COMMUNITY INFORMATION

Low income: 48 percent

People of color: 48 percent

Less than high school education: 15 percent

Limited English households: 8 percent

Unemployment: 6 percent

Persons with disabilities: 75 percent

Male: 43 percent

Female: 57 percent

77 years
Average life expectancy

\$58,319
Per capita income

Number of households: 115

Diener occupied: 84 percent

LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	84%
Spanish	3%
Tagalog (including Filipino)	2%
Other and Unspecified	11%
Total Non-English	16%

BREAKDOWN BY RACE

White: 89%

Black: 0%

Asian: 0%

Hispanic: 19%

American Indian: 22%

Hawaiian/Pacific Islander: 0%

Other race: 0%

Two or more races: 3%

BREAKDOWN BY AGE

	From Ages 1 to 4	6%
	From Ages 1 to 18	24%
	From Ages 18 and up	76%
	From Ages 65 and up	20%

LIMITED ENGLISH SPEAKING BREAKDOWN

	Speak Spanish	0%
	Speak Other Indo-European Languages	0%
	Speak Asian-Pacific Island Languages	0%
	Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

www.epa.gov/ejscreen

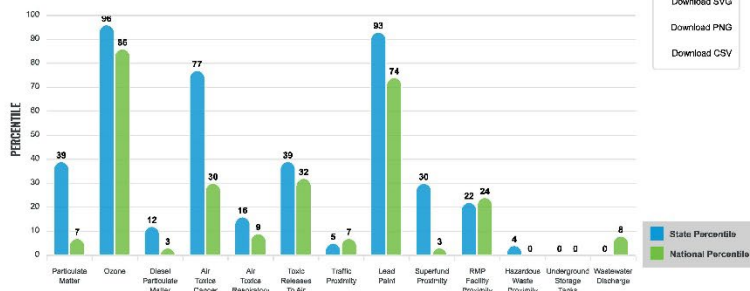
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

EJ INDEXES FOR THE SELECTED LOCATION

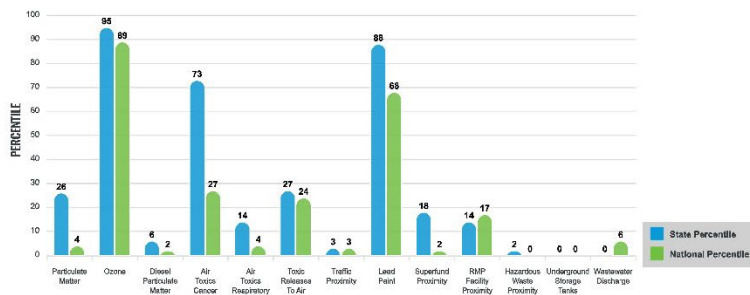


Download SVG
Download PNG
Download CSV

SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



State Percentile
National Percentile

These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for Blockgroup: 490479402011

www.epa.gov/ejscreen

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu\text{g}/\text{m}^3$)	4.74	6.07	12	8.08	2
Ozone (ppb)	67.5	64.5	92	61.6	87
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.0246	0.262	3	0.261	1
Air Toxics Cancer Risk* (lifetime risk per million)	20	20	17	28	3
Air Toxics Respiratory HI*	0.1	0.22	1	0.31	1
Toxic Releases to Air	30	5,100	12	4,600	14
Traffic Proximity (daily traffic count/distance to road)	0.67	160	1	210	2
Lead Paint (% Pre-1960 Housing)	0.23	0.18	71	0.3	52
Superfund Proximity (site count/km distance)	0.0065	0.18	9	0.13	1
RMP Facility Proximity (facility count/km distance)	0.047	0.37	6	0.43	9
Hazardous Waste Proximity (facility count/km distance)	0.0073	0.86	1	1.9	0
Underground Storage Tanks (count/km ²)	0	2.3	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	5.1E-08	12	0	22	3
SOCIOECONOMIC INDICATORS					
Demographic Index	47%	24%	91	35%	72
Supplemental Demographic Index	18%	11%	86	14%	71
People of Color	49%	22%	90	39%	65
Low Income	45%	26%	86	31%	76
Unemployment Rate	6%	3%	81	6%	64
Limited English Speaking Households	0%	2%	0	5%	0
Less Than High School Education	15%	7%	85	12%	72
Under Age 5	6%	7%	40	6%	57
Over Age 64	20%	12%	86	17%	68
Low Life Expectancy	21%	19%	81	20%	66

*Diesel particulate matter, a toxics cancer risk, and air toxics respiratory rates of index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to identify air toxics emission sources and locations of interest for further study. It is important to remember that the air toxics data provided here provide broad estimates of health risks over geographic areas of the country, not data on risks to specific individuals or businesses. Cancer risks and hazard indices from the Air Toxics Data Update are reported to be significant. Significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	59
Air Pollution	5129
Brownfields	1
Toxic Release Inventory	1

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	1

Other environmental data:

Air Non-attainment	No
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	Yes
Selected location contains a "Justice40 (CEIS)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

Report for Blockgroup: 490479402011

www.epa.gov/ejscreen

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	21%	19%	81	20%	66
Heart Disease	7.3	4.6	98	6.1	74
Asthma	12.7	10.8	97	10	95
Cancer	5.4	5.2	55	6.1	33
Persons with Disabilities	12.7%	10.2%	78	13.4%	51

CLIMATE INDICATORS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	11%	8%	72	12%	58
Wildfire Risk	46%	51%	45	14%	85

CRITICAL SERVICE GAPS					
INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	30%	9%	96	14%	88
Lack of Health Insurance	25%	9%	96	9%	96
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for Blockgroup: 490479402011