U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-1000

This Worksheet was designed to be used by those "Partners" (including Public Housing Authorities, consultants, contractors, and nonprofits) who assist Responsible Entities and HUD in preparing environmental reviews, but legally cannot take full responsibilities for these reviews themselves. Responsible Entities and HUD should use the RE/HUD version of the Worksheet.

Environmental Justice (CEST and EA) – PARTNER

https://www.hudexchange.info/environmental-review/environmental-justice

HUD strongly encourages starting the Environmental Justice analysis only after all other laws and authorities, including Environmental Assessment factors if necessary, have been completed.

1. **Were any adverse environmental impacts identified in any other compliance review portion of this project's total environmental review?**

   ☐Yes →   *Continue to Question 2.*

   ☒No →   *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

2. **Were these adverse environmental impacts disproportionately high for low-income and/or minority communities?**

   ☐Yes
      Explain:
        Click here to enter text.
          → *The RE/HUD must work with the affected low-income or minority community to decide what mitigation actions, if any, will be taken. Provide any supporting documentation.*

   ☐No
      Explain:
        Click here to enter text.
          → *If the RE/HUD agrees with this recommendation, the review is in compliance with this section. Continue to the Worksheet Summary below.*

Worksheet Summary

Provide a full description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your program or region

Include all documentation supporting your findings in your submission to HUD.

The US EPA EJScreen is an on-line tool that evaluates a wide range of environmental and social factors. Environmental factors focus on air pollution, underground tanks and hazardous material sites, and building concerns such as lead paint. Social factors include income, skin color, language, education, and age (very young and seniors). The purpose of the tool is to identify communities that are subjected to high levels of pollution and prevent or mitigate development that may worsen health or economic outcomes.

The Project is along the northern end of the Town of Paradise. The surrounding land uses are limited residential and commercial. The primary source of motor vehicle emissions is local traffic. The project is about 4 miles north of Paradise Airport, designated CA92. The airport supports general aviation and had about 40 daily landings. However, since the 2018 fire, traffic may have diminished. Since general aviation aircraft still use leaded fuel, some air-borne lead emissions are expected from planes using this airport. EPA has found that no airborne lead exposure level is acceptable. The roads and airport are local sources of air pollution such as PM2.5 and air toxics and carcinogens. There is also some background ozone transported from the greater Central Valley.

Three EJScreen model runs were performed to estimate if the proposed road improvement project would disproportionally impact vulnerable populations. Reports for these model runs are included below.

EJScreen model runs are typically performed for the project site and then at increasing distances in concentric circles. This allows for comparison between the project site and near-by areas. The model was updated to V2.1 in October 2022 to enhance capabilities in some US Territories and expand EJ metrics. The model now considers five factors (two previously) to calculate a "Demographic Index". The factors considered are percent low-income, percent limited English-speaking, percent less than high school education, percent unemployed, and low life expectancy. (Source: https://www.epa.gov/newsreleases/epa-launches-updates-environmental-justice-mapping-tool-ejscreen).

The Demographic Index is calculated for a circle with the Project as the center point. The values are expressed as a percentile of the state average for each distance is as follows:

0.25 miles, with a population of about 269 people, the Demographic Index is 20,
0.5 miles, with a population of about 862, the Demographic Index is 22, and
1 mile, with a population of about 3060, the Demographic Index is 22.

The changes in the Demographic Index as one makes a larger circle is probably because a wider variety of people are captured from the census data. All three circles are well below the concern level of 75%, so this indicates that there is no impact from a changed demographic index. Another way to say this is that people living near the project will not be harmed disproportionately compared to those living farther away.

EPA recommends considering pollution scores for various metrics that are over the 80th state percentile. The entire area shows high scores for residents over 65. There is only a small difference between the one-quarter mile study circle and the surrounding areas for the following metrics. A summary of scores over the 80th state percentiles is shown below:

	Age over 64 percentile
One-quarter mile	91
One-half mile	96
One mile	96

Essentially, most of the population of the entire area is over 64 years old. The Town of Paradise sees no disproportionate impact to those residing near the Project from those farther away.
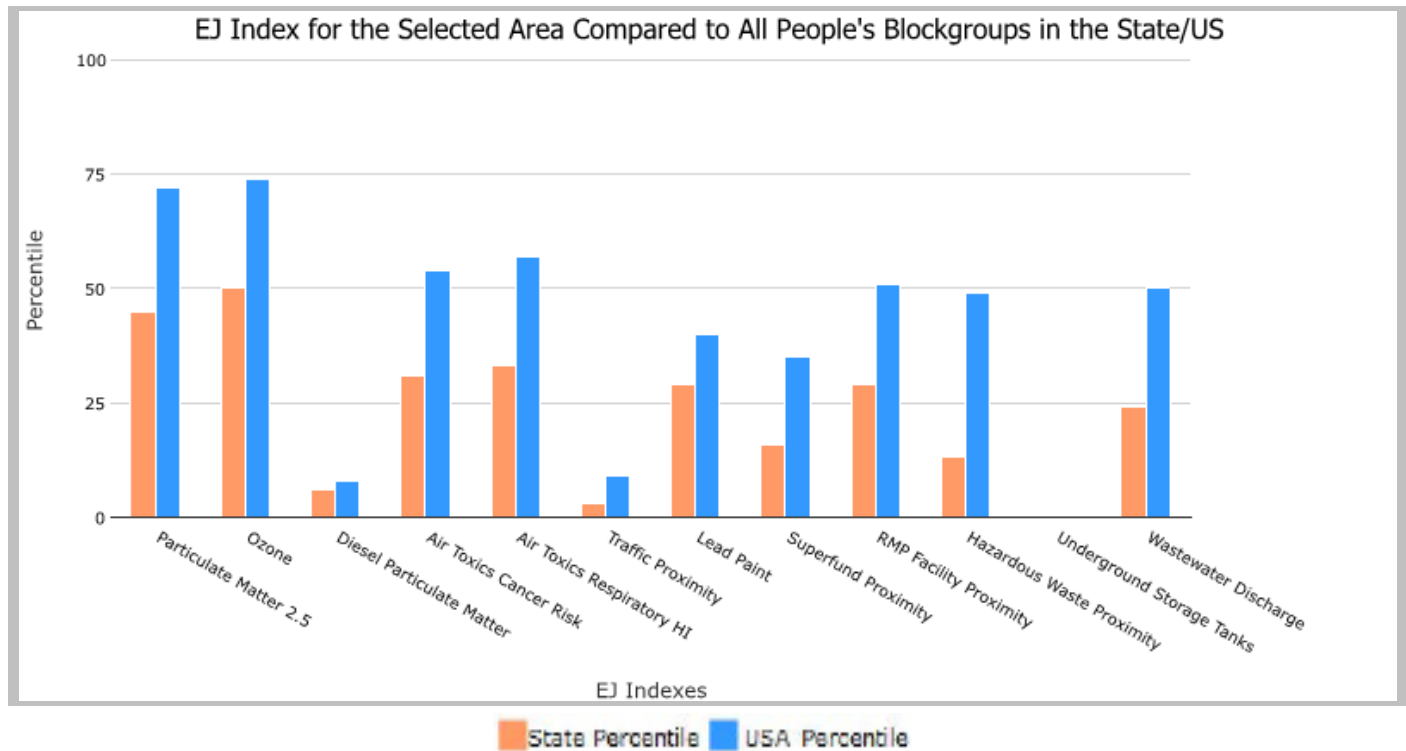
0.25 miles Ring Centered at 39.782405,-121.584633, CALIFORNIA, EPA Region 9

Approximate Population: 269

Input Area (sq. miles): 0.20

Cypress Ln. Paradise CA

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	45	72
EJ Index for Ozone	50	74
EJ Index for Diesel Particulate Matter[*]	6	8
EJ Index for Air Toxics Cancer Risk[*]	31	54
EJ Index for Air Toxics Respiratory HI[*]	33	57
EJ Index for Traffic Proximity	3	9
EJ Index for Lead Paint	29	40
EJ Index for Superfund Proximity	16	35
EJ Index for RMP Facility Proximity	29	51
EJ Index for Hazardous Waste Proximity	13	49
EJ Index for Underground Storage Tanks	0	0
EJ Index for Wastewater Discharge	24	50

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/US
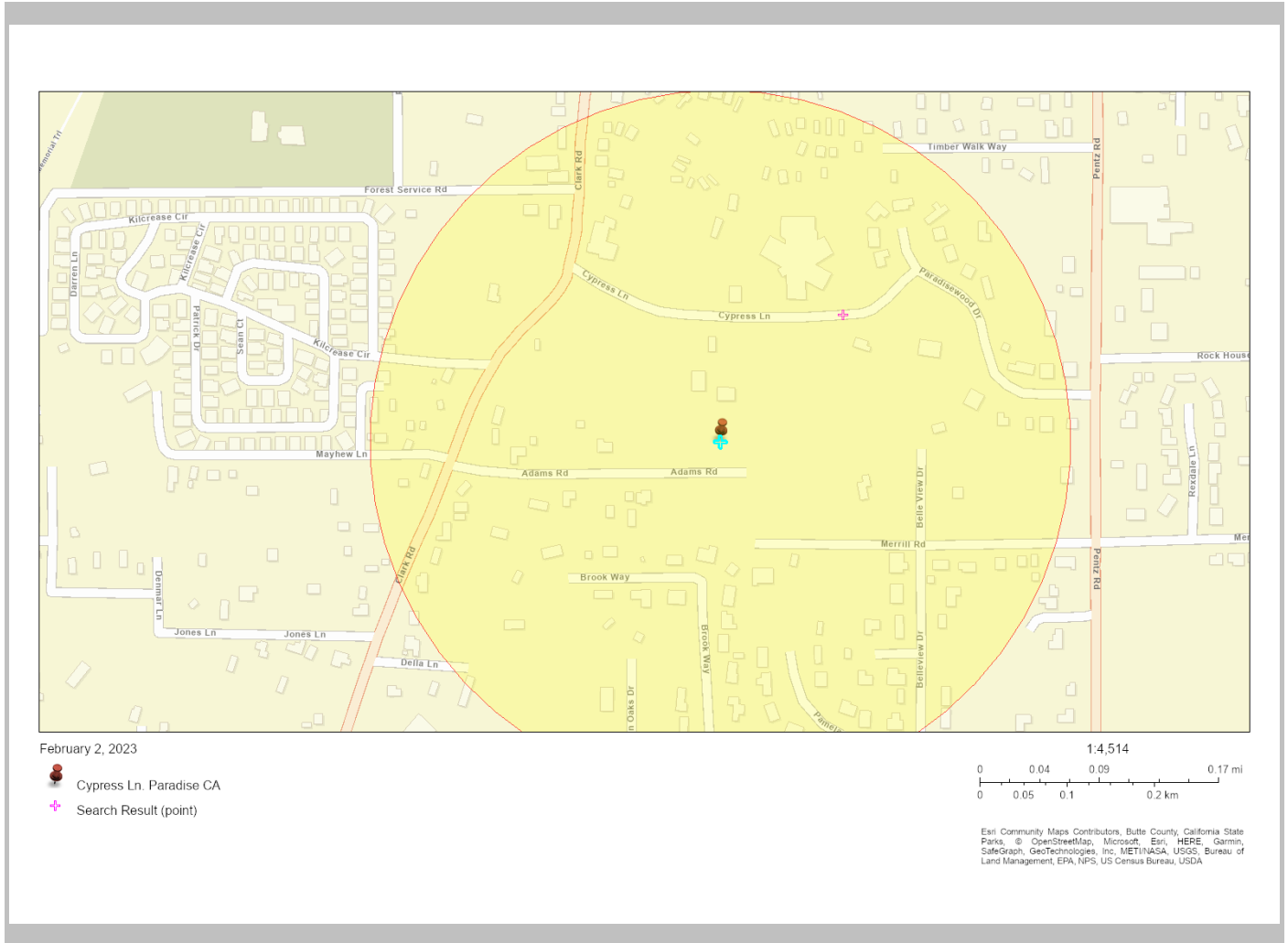
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective 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 2, 2023

🔴 Cypress Ln. Paradise CA

✛ Search Result (point)

1:4,514

| 0 | 0.04 | 0.09 | 0.17 mi |
| 0 | 0.05 | 0.1 | 0.2 km |

Esri Community Maps Contributors, Butte County, California State
Parks, © OpenStreetMap, Microsoft, Esri, HERE, Garmin,
SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of
Land Management, EPA, NPS, US Census Bureau, USDA

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

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu g/m^3$)	12.6	11.7	62	8.67	96
Ozone (ppb)	55	47.7	72	42.5	92
Diesel Particulate Matter* ($\mu g/m^3$)	0.0642	0.33	5	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	31	76	28	80-90th
Air Toxics Respiratory HI*	0.4	0.43	65	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	4.4	1400	3	760	5
Lead Paint (% Pre-1960 Housing)	0.089	0.28	34	0.27	33
Superfund Proximity (site count/km distance)	0.029	0.17	17	0.13	27
RMP Facility Proximity (facility count/km distance)	0.31	1.1	36	0.77	49
Hazardous Waste Proximity (facility count/km distance)	0.57	5.2	13	2.2	46
Underground Storage Tanks (count/km²)	0	1.5	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00075	67	31	12	46
Socioeconomic Indicators					
Demographic Index	26%	44%	22	35%	44
People of Color	20%	63%	9	40%	39
Low Income	32%	29%	62	30%	57
Unemployment Rate	0%	6%	0	5%	0
Limited English Speaking Households	3%	9%	39	5%	67
Less Than High School Education	18%	16%	65	12%	77
Under Age 5	2%	6%	21	6%	23
Over Age 64	31%	14%	91	16%	90

*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.

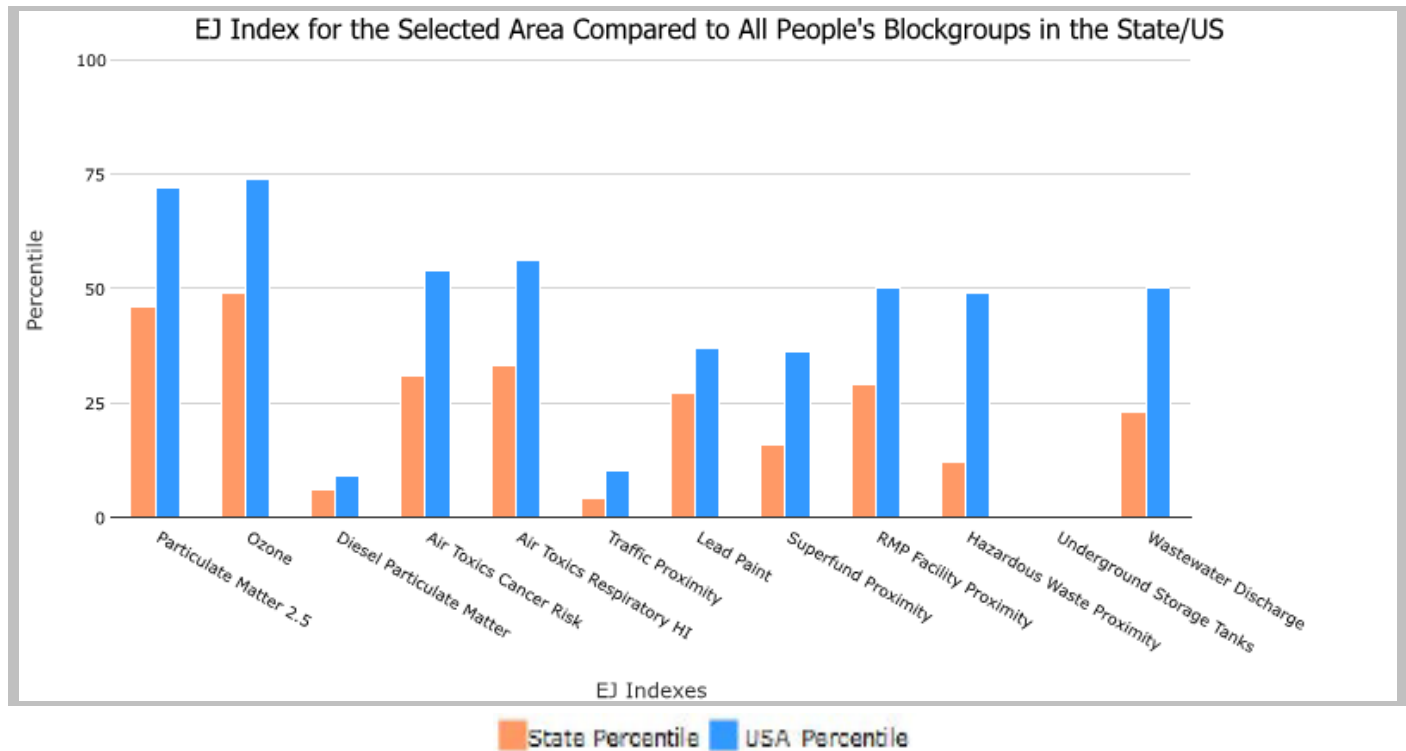For additional information, see: www.epa.gov/environmentaljustice

0.5 miles Ring Centered at 39.782405,-121.584633, CALIFORNIA, EPA Region 9

Approximate Population: 862

Input Area (sq. miles): 0.79

Cypress Ln. Paradise CA

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	46	72
EJ Index for Ozone	49	74
EJ Index for Diesel Particulate Matter*	6	9
EJ Index for Air Toxics Cancer Risk*	31	54
EJ Index for Air Toxics Respiratory HI*	33	56
EJ Index for Traffic Proximity	4	10
EJ Index for Lead Paint	27	37
EJ Index for Superfund Proximity	16	36
EJ Index for RMP Facility Proximity	29	50
EJ Index for Hazardous Waste Proximity	12	49
EJ Index for Underground Storage Tanks	0	0
EJ Index for Wastewater Discharge	23	50

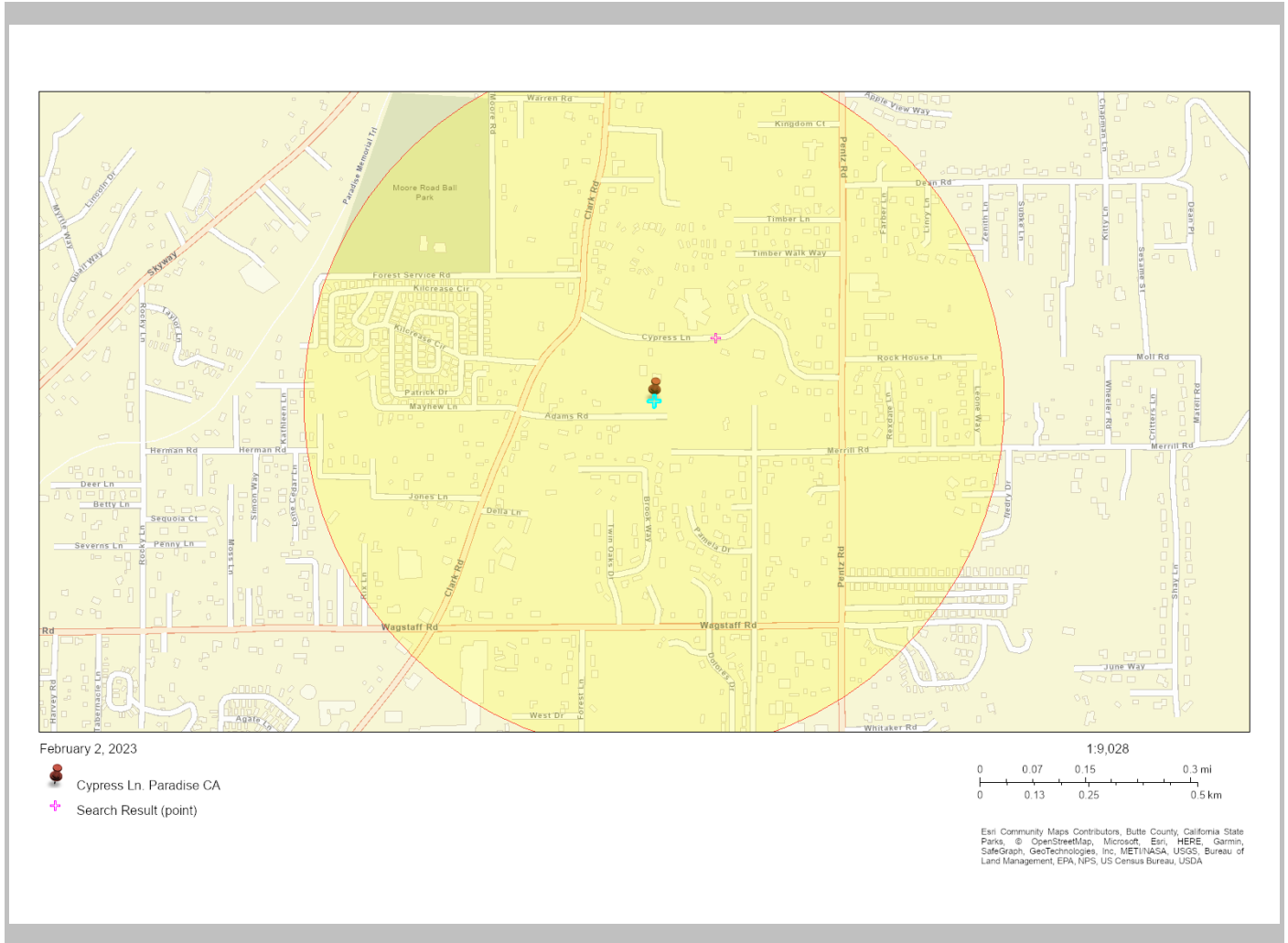EJ Index for the Selected Area Compared to All People's Blockgroups in the State/US

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.

Approximate Population: 862
Input Area (sq. miles): 0.79
Cypress Ln. Paradise CA

February 2, 2023

Cypress Ln. Paradise CA

Search Result (point)

1:9,028

| 0 | 0.07 | 0.15 | 0.3 mi |
| 0 | 0.13 | 0.25 | 0.5 km |

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

United States Environmental Protection Agency

0.5 miles Ring Centered at 39.782405,-121.584633, CALIFORNIA, EPA Region 9

Approximate Population: 862

Input Area (sq. miles): 0.79

Cypress Ln. Paradise CA

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 (μg/m^3)	12.7	11.7	64	8.67	96
Ozone (ppb)	54.9	47.7	71	42.5	92
Diesel Particulate Matter* (μg/m^3)	0.0657	0.33	5	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	31	76	28	80-90th
Air Toxics Respiratory HI*	0.4	0.43	65	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	6.6	1400	5	760	7
Lead Paint (% Pre-1960 Housing)	0.074	0.28	31	0.27	30
Superfund Proximity (site count/km distance)	0.029	0.17	17	0.13	27
RMP Facility Proximity (facility count/km distance)	0.31	1.1	36	0.77	49
Hazardous Waste Proximity (facility count/km distance)	0.55	5.2	13	2.2	46
Underground Storage Tanks (count/km^2)	0	1.5	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00081	67	31	12	47
Socioeconomic Indicators					
Demographic Index	26%	44%	22	35%	44
People of Color	12%	63%	3	40%	27
Low Income	40%	29%	72	30%	69
Unemployment Rate	4%	6%	45	5%	53
Limited English Speaking Households	1%	9%	29	5%	59
Less Than High School Education	13%	16%	55	12%	66
Under Age 5	1%	6%	15	6%	17
Over Age 64	40%	14%	96	16%	95

*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.

For additional information, see: www.epa.gov/environmentaljustice
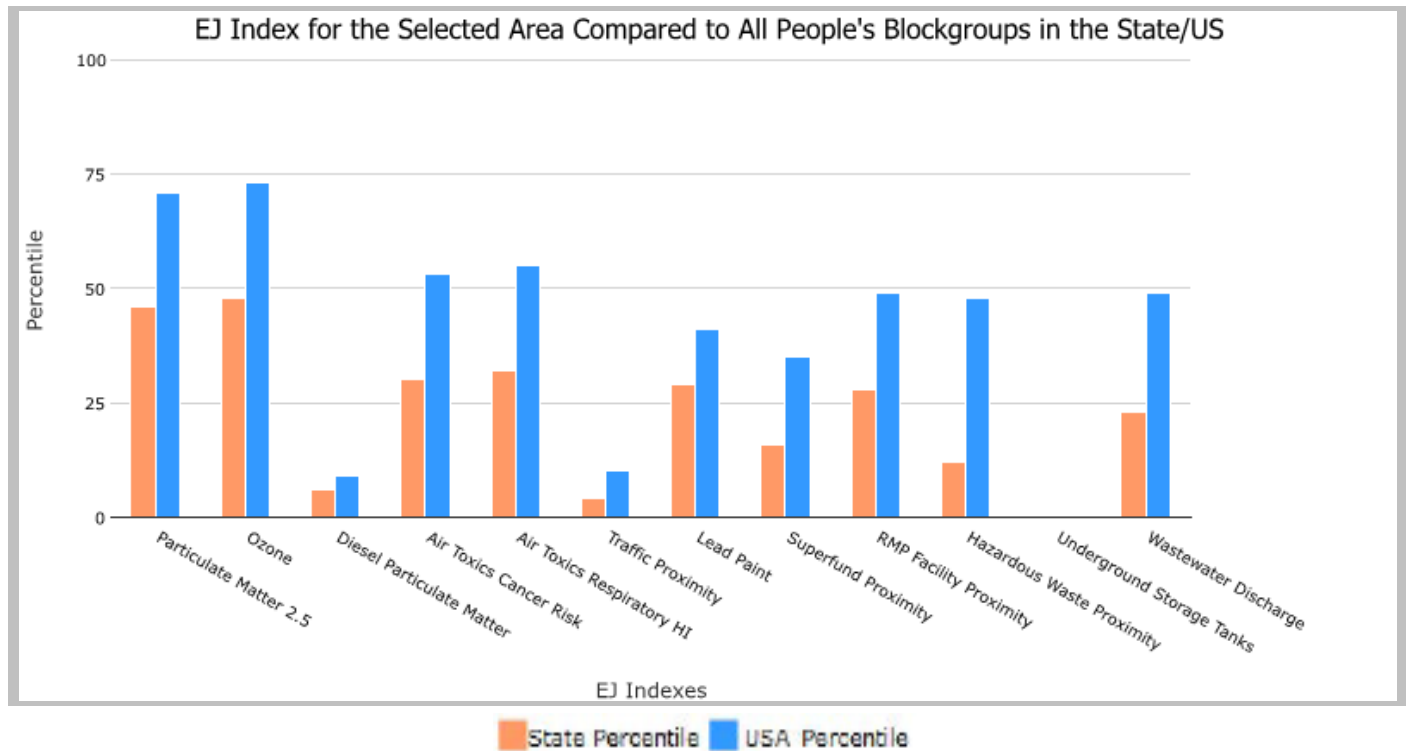
1 mile Ring Centered at 39.782405,-121.584633, CALIFORNIA, EPA Region 9

Approximate Population: 3,060

Input Area (sq. miles): 3.14

Cypress Ln. Paradise CA

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	46	71
EJ Index for Ozone	48	73
EJ Index for Diesel Particulate Matter*	6	9
EJ Index for Air Toxics Cancer Risk*	30	53
EJ Index for Air Toxics Respiratory HI*	32	55
EJ Index for Traffic Proximity	4	10
EJ Index for Lead Paint	29	41
EJ Index for Superfund Proximity	16	35
EJ Index for RMP Facility Proximity	28	49
EJ Index for Hazardous Waste Proximity	12	48
EJ Index for Underground Storage Tanks	0	0
EJ Index for Wastewater Discharge	23	49

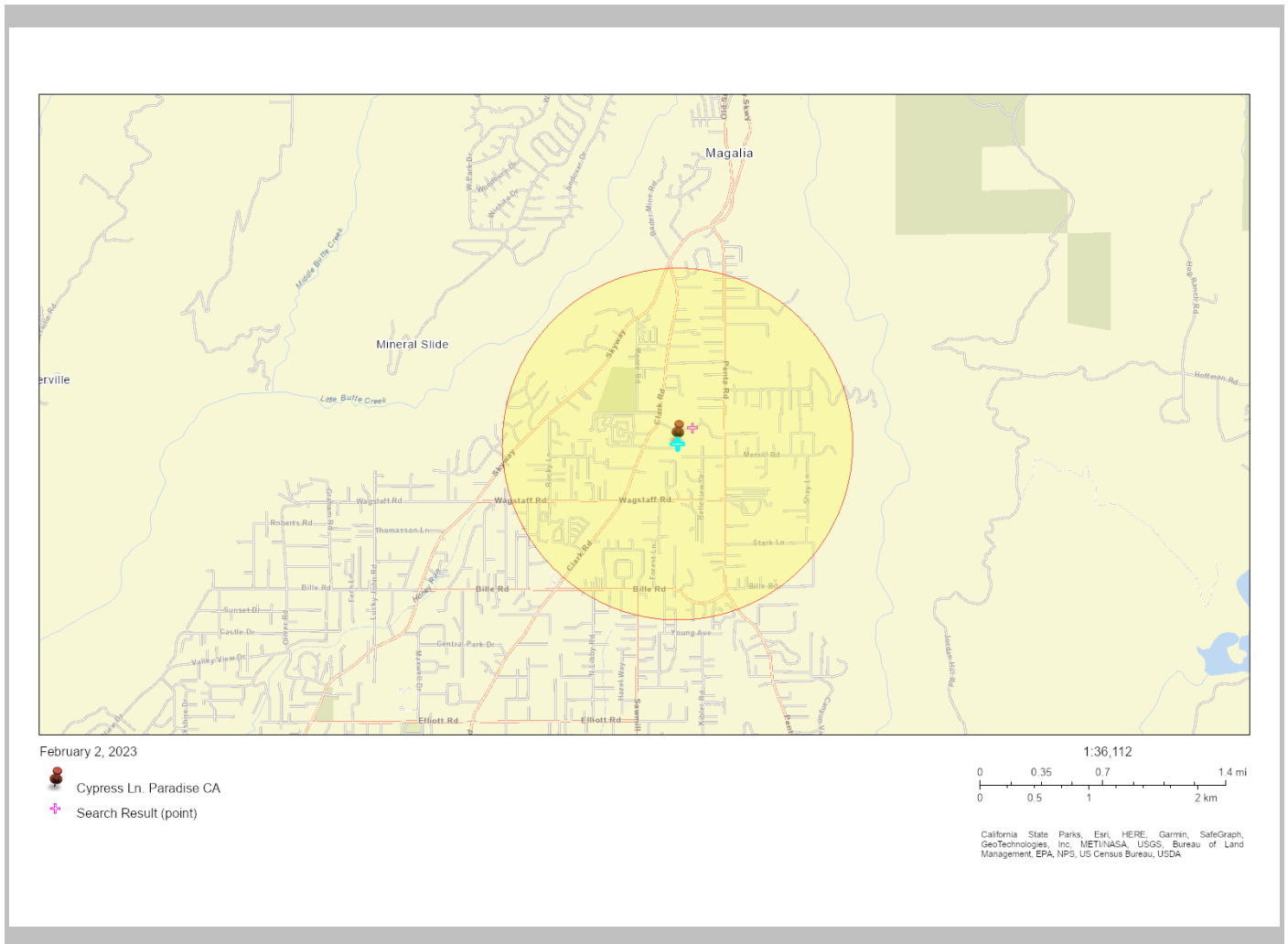EJ Index for the Selected Area Compared to All People's Blockgroups in the State/US

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 2, 2023

1:36,112

Cypress Ln. Paradise CA

⚐ Search Result (point)

0   0.35   0.7   1.4 mi
0   0.5   1   2 km

California State Parks, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

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

Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu g/m^3$)	12.7	11.7	65	8.67	96
Ozone (ppb)	54.9	47.7	71	42.5	92
Diesel Particulate Matter* ($\mu g/m^3$)	0.0665	0.33	5	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	30	31	76	28	80-90th
Air Toxics Respiratory HI*	0.4	0.43	65	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	7	1400	5	760	7
Lead Paint (% Pre-1960 Housing)	0.11	0.28	37	0.27	37
Superfund Proximity (site count/km distance)	0.029	0.17	17	0.13	27
RMP Facility Proximity (facility count/km distance)	0.3	1.1	35	0.77	48
Hazardous Waste Proximity (facility count/km distance)	0.58	5.2	13	2.2	47
Underground Storage Tanks (count/km^2)	0	1.5	0	3.9	0
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00081	67	31	12	47
Socioeconomic Indicators					
Demographic Index	25%	44%	20	35%	43
People of Color	10%	63%	3	40%	24
Low Income	40%	29%	72	30%	69
Unemployment Rate	9%	6%	74	5%	77
Limited English Speaking Households	1%	9%	30	5%	60
Less Than High School Education	8%	16%	42	12%	49
Under Age 5	2%	6%	16	6%	18
Over Age 64	41%	14%	96	16%	96

*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.

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