

Fracking Threatens Health of California Communities Already Overburdened with Pollution

New analysis reveals thousands of oil and gas wells concentrated in communities most vulnerable to pollution and predominantly communities of color

California has more than 84,000 oil and gas wells,¹ many of which are located in close proximity to urban and rural communities identified by the California Environmental Protection Agency as among the most polluted in the state.² These communities—most of which are communities of color—are already shouldering a disproportionately heavy burden from air, water, and soil pollution from industrial activity. These communities already suffer higher rates of illnesses linked to pollution, such as asthma.³

Across the country, we have already seen that fracking and other new oil and gas extraction methods have left communities with harmful air pollution, contaminated drinking water, and large amounts of toxic waste. Many of these extraction methods can cause pollution that has been linked to respiratory and neurological problems, birth defects, and cancer.⁴ With the oil and gas industry pushing hard to expand production in the state, these communities may face further threats to their health.

Communities in Los Angeles and Kern Counties are at heightened risk because they contain most existing and newly permitted wells and overlap with parts of the Monterey Formation.

Drilling may also expand to other areas in the Formation, which stretches hundreds of square miles from northern to southern California and underlies some of the country's most fertile agricultural lands and densely populated urban areas.

Specifically, an NRDC analysis of California Environmental Protection Agency and oil and gas well data reveals:

- **5.4 million Californians—about 14 percent of the state's population—live within one mile of one or more oil and gas wells.⁵**
- **Of those living near wells, more than 1.8 million live in some of the state's most polluted communities, primarily in Los Angeles and Kern counties (see Table 1).**

Table 1: Counties with the largest oil & gas well counts.

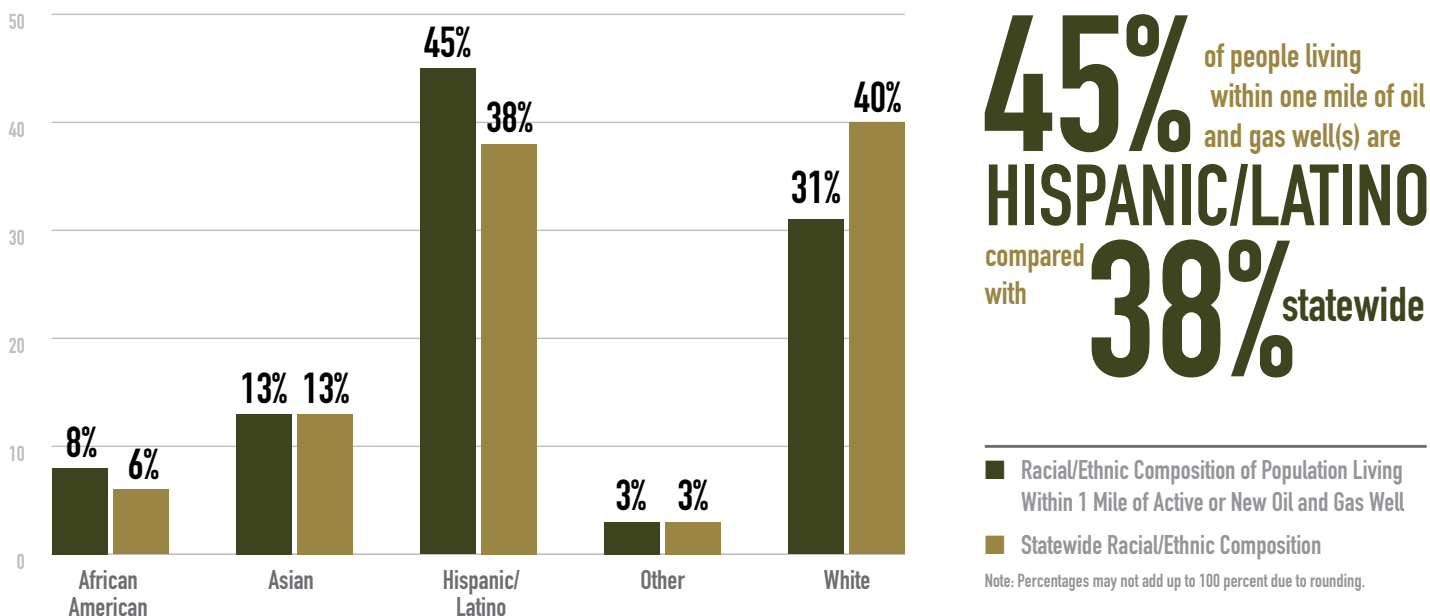
County	Active Oil and Gas Wells	New Oil and Gas Wells	Stimulated Wells	SB4 Notifications	Population within 1 Mile of Oil & Gas Well	Percent of population within one mile that is non-White.
Kern	57,289	6,141	2,361	591	290,794	57%
Los Angeles	5,715	350	124	0	3,523,477	76%
Fresno	3,470	201	3	2	13,755	68%
Ventura	2,988	90	456	3	93,467	67%
Santa Barbara	2,058	83	3	0	69,574	51%
Monterey	1,153	110	1	0	425	73%



For more information,
please contact:
Miriam Rotkin-Ellman
mrotkinellman@nrdc.org

www.nrdc.org
www.facebook.com/nrdc.org
www.twitter.com/nrdc

Figure 1: Demographics of Population Living Near Wells and Statewide



*California Office of Environmental Health Hazard Assessment (OEHHA), "CalEnviroScreen Version 2.0," oehha.ca.gov/ej/ces2.html.

■ **Communities of color are disproportionately at risk.**

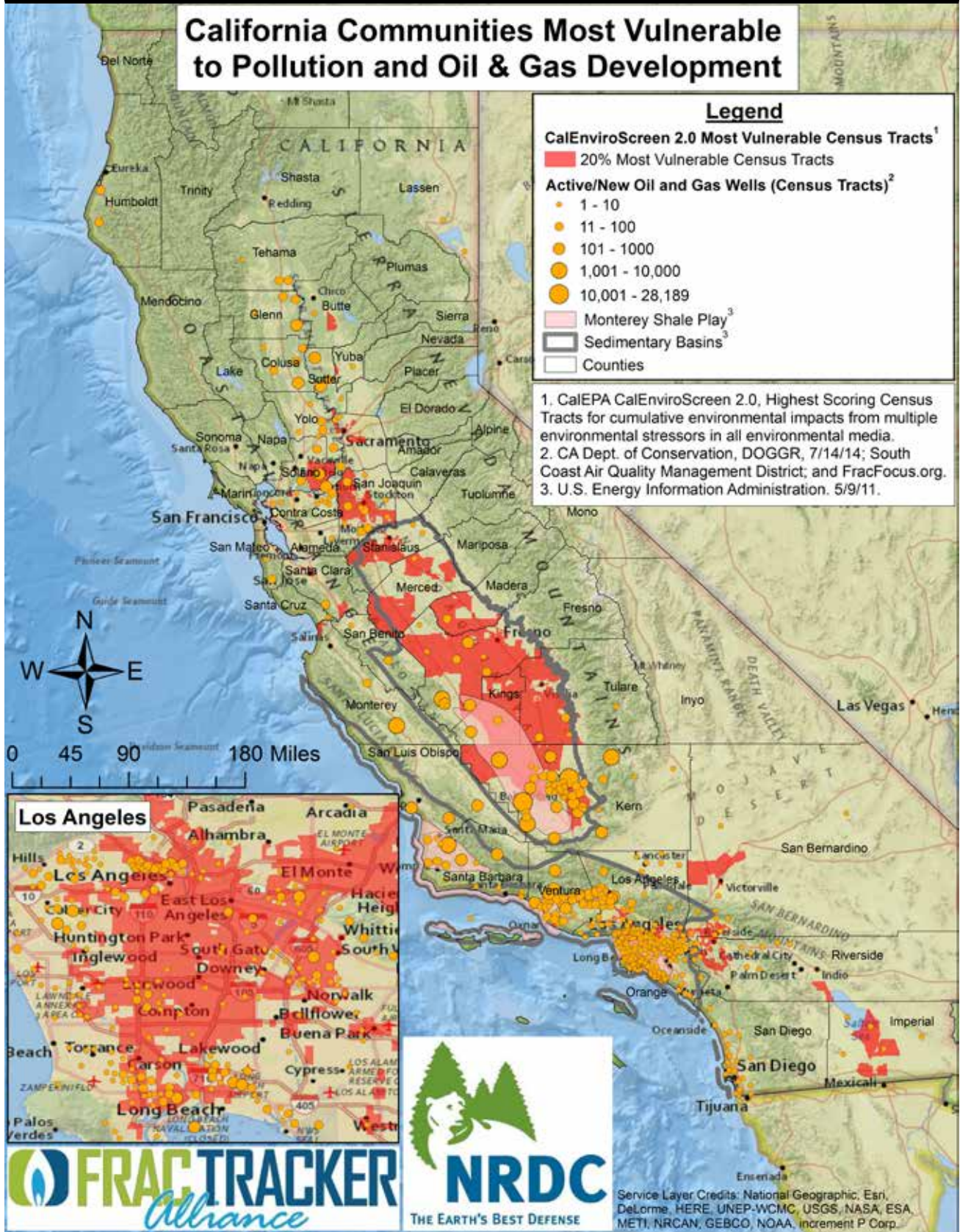
In California, roughly one in five African Americans, one in six Hispanics/Latinos, one in seven Asians, and one in nine Whites live within one mile of at least one well. Additionally, of those who live both in the state's most polluted communities and near a well, 69 percent are Hispanic/Latino, 10 percent are African American, and 11 percent are Asian (see also Figure 1).

- **California currently counts 84,434 active and new oil and gas wells.**⁶ Of these, at least 7,177 are newly permitted and another 3,003 have been stimulated using fracking and other methods. However, due to data gaps and discrepancies in reporting, the number of stimulated wells is likely greater.

- **Most wells are concentrated in Kern (63,430) and Los Angeles (6,065) counties.** However, developing the vast Monterey Formation could potentially bring oil wells, fracking and acidizing to many more communities.

Expanding oil production in California—in areas that are already heavily drilled or in new areas—further compromises the health of neighboring communities. For many people already living with oil and gas wells, and at ground zero for new drilling activity, these threats are piled on top of a heavy burden of environmental contamination.

NRDC's analysis underscores the need for a time-out on fracking and other dangerous oil and gas stimulation methods in California to allow for a full evaluation of their risks and determine how to protect against them. It also highlights the importance of defending a community's right to restrict or prohibit fracking within its own borders—rather than waiting for the state to act.



This map was created using datasets generated by the California Division of Oil, Gas and Geothermal Resources (DOGGR), the South Coast Air Quality Management District (SCAQMD), FracFocus.org, and the California Environmental Protection Agency (CalEPA). The full report, along with a description of the methods and tables identifying the most impacted areas, are available here: www.nrdc.org/health/california-fracking-risks.asp.

Endnotes

- 1 CA Division of Oil, Gas and Geothermal Resources (DOGGR), GIS Mapping, "AllWells" database, www.conservation.ca.gov/dog/maps/Pages/GISMapping2.aspx (accessed July 14, 2014) and "Well Stimulation Treatment Notices Index," www.conservation.ca.gov/dog/Pages/IWST_disclaimer.aspx (accessed July, 2014). South Coast Air Quality Management District Rule 1148.2 "Oil and Gas Wells Activity Notification," xappprod.aqmd.gov/r1148pubaccessportal/Home/Index (accessed July, 2014). FracFocus Chemical Disclosure Registry, fracfocus.org/ (accessed July, 2014). More details on data extraction can be found in Appendix I of the main report www.nrdc.org/health/california-fracking-risks.asp.
- 2 CalEPA, Office of Environmental Health Hazard Assessment, "CalEnviroScreen 2.0 data and report," oehha.ca.gov/ej/ces2.html (accessed August 18, 2014).
- 3 EPA, "Asthma Triggers: Gain Control," www.epa.gov/asthma/triggers.html (accessed 09/02/2014).
- 4 John L. Adgate, Bernard D. Goldstein, Lisa M. McKenzie, "Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development," *Environmental Science & Technology*, February 2014, doi:10.1021/es404621d. Lisa M. McKenzie, et al., "Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado," *Environmental Health Perspectives*, 2014, doi: dx.doi.org/10.1289/ehp.1306722. Lisa M. McKenzie, et al., "Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources," *Science of the Total Environment* 424 (2012): 79–87, doi:10.1016/j.scitotenv.2012.02.018.
- 5 We used a quarter mile distance in urban areas while for the statewide calculation we used a one mile distance to take into account the lower population density in rural areas. These distances were chosen to reflect common, and understandable, measures of proximity because there is a limited, and inconclusive, literature evaluating distances and health risks. Additionally, some pollution is regional and can impact populations not immediately proximal.
- 6 This includes wells classified in DOGGR's "AllWells" database as New and Active Oil and Gas wells. Active Oil and Gas wells include wells not plugged according to DOGGR's standards and therefore may be sites for new stimulation or act as conduits for pollution. The classification may differ from the *WellStatus* code in the same database.