Fracking Threatens Health of Kern County Communities Already Overburdened with Pollution

New analysis reveals thousands of oil and gas wells concentrated near places already among the most vulnerable to pollution and predominantly communities of color

Kern County is the epicenter of California's oil and gas production with more than 63,000 of the state's 84,434 active and new oil and gas wells—nearly 75 percent.[1] In addition to large conventional oil reservoirs, Kern County sits atop part of the Monterey Formation, which is targeted for unconventional oil production using fracking and other stimulation methods.

Oil well in Kern County

Of the rural county's population, 39 percent live in communities ranked among the most at risk from environmental pollution in California.[2] In addition, many oil and gas wells are located in places that are already shouldering a disproportionately high share of the burden from air, water, and soil pollution from existing industrial activity, including higher rates of illnesses (like asthma) that are linked to pollution.[3] These places are also predominantly home to communities of color.

As the oil and gas industry explores how to increase production using fracking and other controversial extraction techniques in Kern County, these communities are at the greatest risk for the potential health impacts. This includes impacts that have been linked to respiratory and neurological problems, birth defects, and cancer.[4]

An NRDC analysis of oil and gas wells and California Environmental Protection Agency data for Kern County reveals:

- **One in three residents lives within one mile of an oil or gas well.**[5] That's more than 290,000 people, or 35 percent of the county's population.
- **Nearly half of the people who live within a mile of an oil and gas well also live in communities most vulnerable to pollution**. This accounts for roughly 122,000 people—or 15 percent of the county's population—who are already grappling with health threats from air pollution, drinking water contamination, and exposure to pesticides.

NRDC

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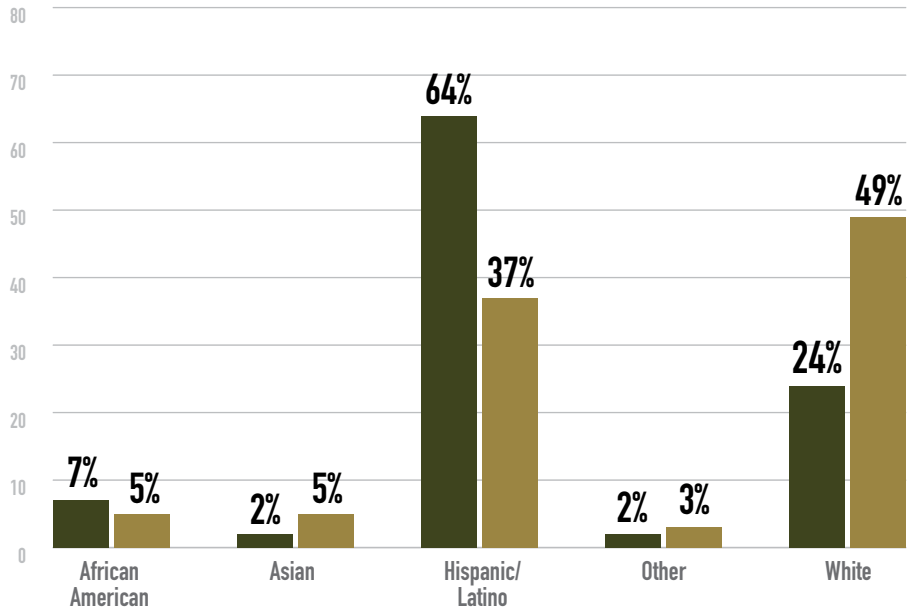
Figure 1: Demographics of Kern County Residents Most Vulnerable to Pollution* and Within 1 Mile Distance to Oil and Gas Wells



64%

of people living within one mile of oil and gas well(s) and in areas facing the worst environmental health threats are HISPANIC/LATINO.

Most Vulnerable Communities With Oil and Gas Wells Within 1 Mile

Less Vulnerable Communities Without Oil and Gas Wells Within 1 Mile

Note: Percentages may not add up to 100 percent due to rounding.

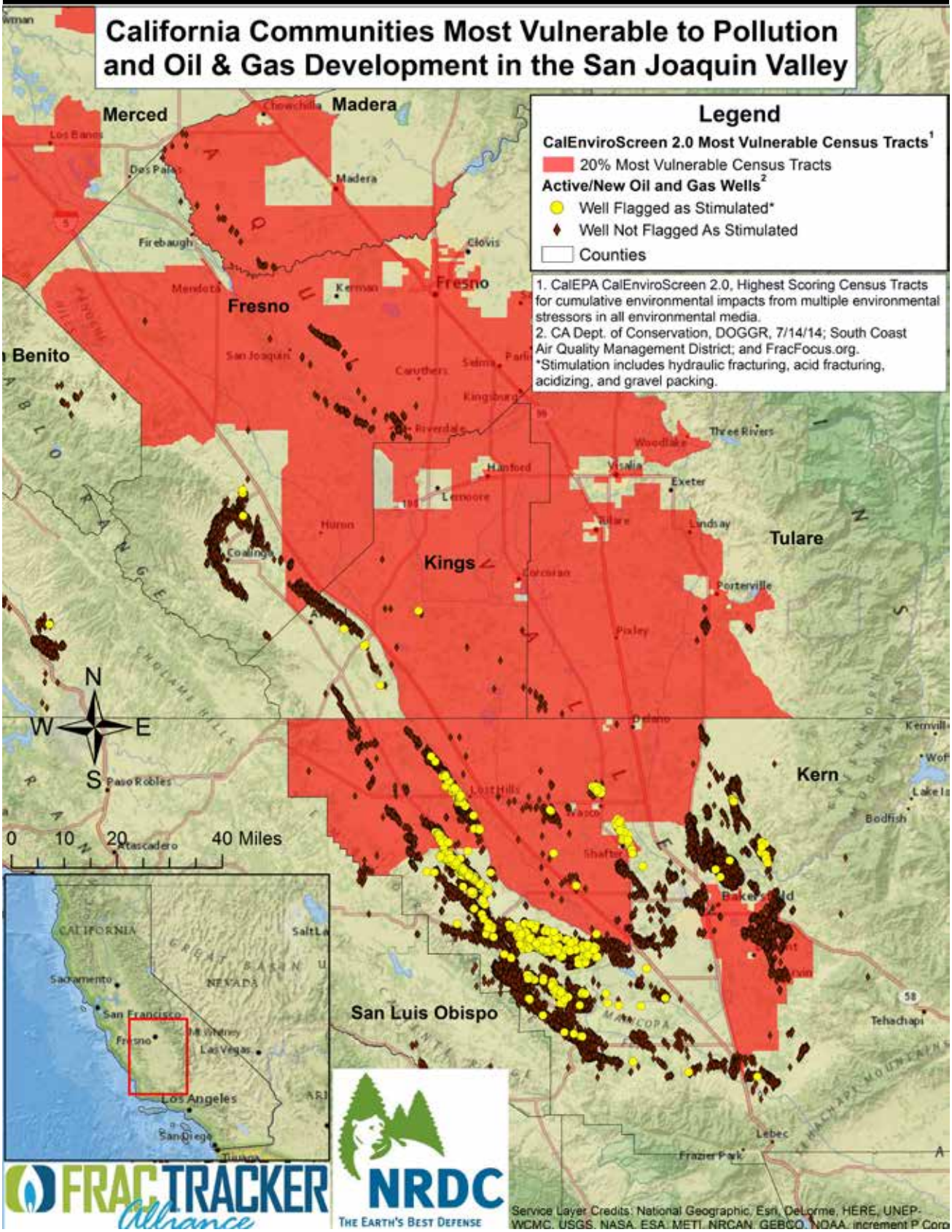
*California Office of Environmental Health Hazard Assessment (OEHHA), "CalEnviroScreen Version 2.0," oehha.ca.gov/ej/ces2.html.

- **Communities of color shoulder the overwhelming majority of the burden.** More than 3 out of 4 people who live within a mile of a well *and* in one of the state's most polluted communities are people of color (see also Figure 1).
- **Kern County currently has 63,430 active and new oil and gas wells.**[6] Of these, 6,141 are newly permitted and at least 2,361 have already been stimulated using hydraulic fracturing, acidizing, or other stimulation methods. New activity is also concentrated in the county and accounts for 591 of the 596 well stimulation notices that were filed by well operators between December 2013 and July 2014.

Expanding oil production in Kern County could create additional health threats from air and water pollution faced predominantly by communities of color, particularly Hispanic/Latino communties. For many of the 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.

Southern San Joaquin Valley showing the density of active and new oil and gas wells as of July 2014 and the 20 percent most vulnerable census tracts according to the CalEnviroScreen 2.0 released in August 2014



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:http://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.