

Oil and Gas Water Quality Monitoring Program

The State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) (collectively, the California Water Boards) are a state regulatory agency that has the responsibility to protect the waters of California and to preserve all beneficial uses of those waters. The California Water Boards are part of the California Environmental Protection Agency (CalEPA).

The State Water Board's Oil and Gas Water Quality Monitoring Program¹ began in 2014 to evaluate potential impacts to groundwater from well stimulation (hydraulic fracturing) activities. It now includes oilfield produced water* and enhanced oil recovery* activities as part of the underground injection control (UIC)* program² and regulation of produced water ponds*. Well stimulation and UIC activities are regulated by the California Department of Conservation Geologic Energy Management Division (CalGEM) and the Water Boards under memorandum of agreement.

Oil and gas production requires extracting hydrocarbons* from geologic formations deep underground and separating the resulting

mixture of liquid hydrocarbons*, gas, water, and solids. Water and other materials like sand are removed, leaving the liquid hydrocarbons and gas as final products for commercial use (Figure 1). The separated natural gas is processed in the field or at a natural gas processing plant to remove impurities before it is made available for commercial use.

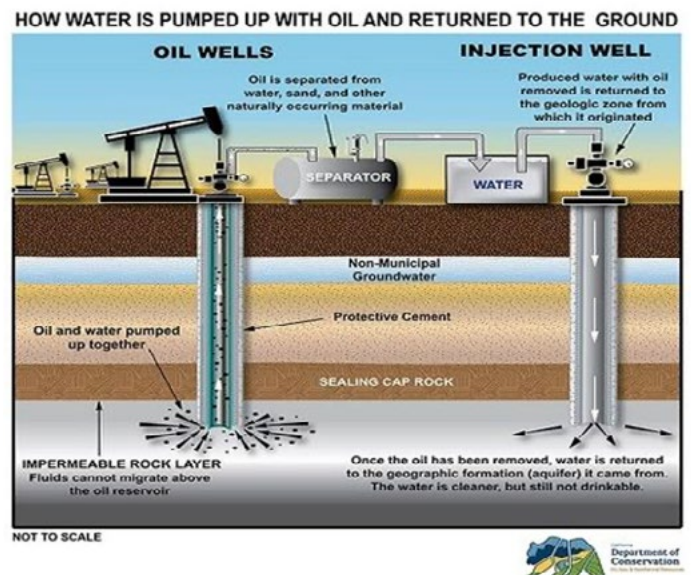


Figure 1: Conceptual model of oil and gas extraction and produced water re-injection

¹ https://www.waterboards.ca.gov/water_issues/programs/groundwater/sb4/

² [https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl\(UIC\).aspx](https://www.conservation.ca.gov/calgem/general_information/Pages/UndergroundInjectionControl(UIC).aspx)

Oil and Gas Production in California

In California, the fluid extracted by oil wells often contains much more water than oil. This water is called produced water*, which is either disposed of, or treated and reused. Injection wells (Figure 1), which are a part of injection projects are typically used to dispose of produced water. These injection projects must be permitted by CalGEM via a multiple-step process, including Water Boards review.

Oil and Gas Production in Los Angeles and Ventura Counties

The Los Angeles Water Board's Oil and Gas Monitoring Program³ is committed to informing communities and all stakeholders throughout our region about oil and gas production water quality issues. This includes all of Los Angeles and Ventura counties.

Los Angeles County has 47 active and 24 abandoned or inactive oil and gas fields. Ventura County has 34 active and 16 abandoned oil and gas fields. Together, Los Angeles and Ventura Counties have 11% of all the oil and gas production wells in California. There are approximately 5,700 oil and gas production wells in Los Angeles County and 3,000 oil and gas production wells in Ventura County. According to the most recent Annual Report of the State Oil and Gas Supervisor⁴ in 2019, the Los Angeles region produced 15% of the state's total oil (almost 24 million barrels) and 27% of the state's total produced water (868 million barrels) (Figure 2). No hydraulic fracturing, also known as fracking*, which is a well stimulation technique used in low-permeability rocks to increase fluid flow by injecting water, sand, and chemicals under high pressure into a bedrock formation via a well, has occurred in Los Angeles or Ventura counties since 2015.

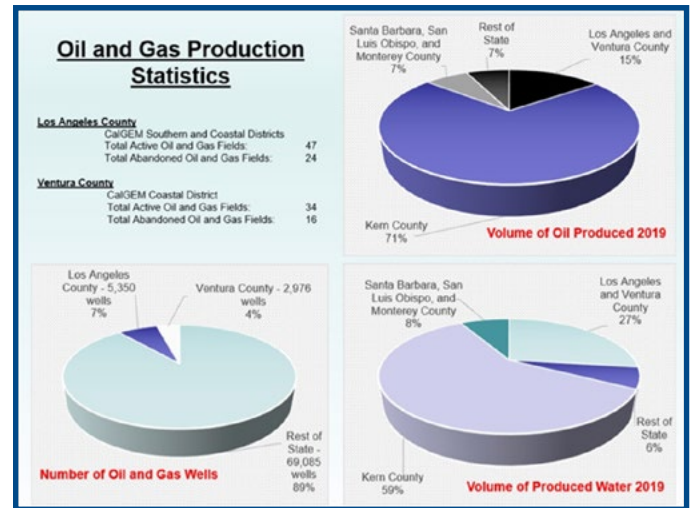


Figure 2: Oil and Gas Production Statistics for Los Angeles and Ventura Counties

Oil and Gas Production Oversight

Oil and gas production in the United States is regulated by nine individual federal and state agencies. In California, CalGEM oversees more than 242,000 wells, including nearly 77,411 active or idle oil producers. CalGEM's authority extends to three miles offshore. The State Water Board and the nine Regional Water Boards have authority under the California Water Code⁵ to protect the beneficial uses of waters and water quality from impacts from oil and gas production.

Production of oil and gas in our region occurs mostly within urban environments. In Los Angeles County, oil and gas wells are often located next to residential communities, where releases of chemicals into the environment may create health and safety concerns. Chemical releases into the atmosphere from oil and gas production in Los Angeles and Ventura counties are overseen by the South Coast Air Quality Management District (SCAQMD) and the Ventura County Air Pollution Control District (VCAPCD).

³ https://www.waterboards.ca.gov/losangeles/water_issues/programs/Oil_and_Gas/

⁴ California Department of Conservation. Geologic Energy Management Division. 2019 Annual Report of the Oil and State Gas Supervisor. (PR03), available at https://www.conservation.ca.gov/calgem/pubs_stats/annual_reports/Pages/annual_reports.aspx. Geologic Energy Management Division, 2020.

⁵ <https://leginfo.ca.gov/faces/codesTOCSelected.xhtml?tocCode=WAT&tocTitle=+Water+Code+-+WAT>

The Los Angeles Water Board oversees the clean-up of chemical releases into soil, groundwater, and surface water from oil and gas production in our region.

The Los Angeles Water Board ensures that oil and gas operations located within Los Angeles and Ventura counties meet all regulations for the protection of water quality, and water quality-related human health and safety, and the environment. We do this by:

- Conducting oil and gas field inspections of water sumps* in our region
- Providing input on geological and engineering studies for UIC projects proposed in our region to ensure that beneficial uses of the region's waters, including sources of drinking water, are not harmed by the proposed activities.
- Reviewing proposed aquifer exemption* applications to ensure that expansion of oil and gas producing boundaries will not harm sources of drinking water or otherwise impact beneficial uses of waters of the State.

If you have water quality questions or concerns, or for more information about the Oil and Gas Monitoring Program, please contact:

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Caption: Aliso Canyon Oil Field Production Pad



Caption: Oil Pump



Caption: Los Angeles Water Board Staff/Inspectors

With over 10 million residents, the Los Angeles Water Board regulates the most densely populated region in the state, including the coastal watersheds of Los Angeles and Ventura Counties and small portions of Kern and Santa Barbara Counties.