

Posted on July 9, 2015

INDEPENDENT SCIENTIFIC STUDY REVEALS PROVEN DANGERS ASSOCIATED WITH OIL AND GAS DEVELOPMENT IN CA

LOS ANGELES – Today, the California Council on Science and Technology (CCST) released [Volumes II and III](#) of its independent scientific study on the impacts of advanced well stimulation, including fracking, in California. The report revealed inherent and unavoidable dangers associated with oil and gas development, including toxic air emissions that can endanger the health and safety of Californians and wastewater disposal methods that threaten California's groundwater resources.

The study, mandated by SB 4, was drafted by the CCST and released after California's first-ever fracking regulations were implemented at the beginning of the month, making it impossible for the regulations to reflect the findings of the study.

Despite numerous recommendations focused on mitigating the health threats from fracking, California's Division of Oil, Gas and Geothermal Resources (DOGGR) today indicated no plan to update the SB 4 regulations to reflect the finding of this study.

"The CCST study revealed inevitable, negative health impacts from fracking and all forms of oil production in the state. Californians deserve regulations based on the most comprehensive and current science," said Jackie Pomeroy, spokesperson for CAFrackFacts. "It is concerning that California's regulatory agencies have allowed these practices to move forward despite serious risks and massive data gaps."

Key Report Findings:

- **Chemical Toxicity:** In California, "operators have unrestricted use of many hazardous and uncharacterized chemicals in hydraulic fracturing... The toxicity and biodegradability of more than half the chemicals used in hydraulic fracturing remains un-investigated, unmeasured, and unknown" (pg 34).
- **Public Health:** Many of the chemicals, "used in and emitted by oil and gas development can damage health, and place disproportionate risks on sensitive populations, including children, pregnant women, [and] the elderly. Oil and gas development poses more elevated health risks when conducted in areas of high population density such as Los Angeles, because it results in larger population exposures to toxic air contaminants" (pg. 62).
- **Air Quality:** "Oil and gas development can have larger proportional impacts [on air pollution levels] in counties, cities [and] neighborhoods." In particular, "local air toxic concentrations near drilling and production sites may be elevated" (pg. 61).
- **Water Quality:** "Protected aquifers exist above shallow fracturing operations, and this presents an inherent risk that hydraulic fractures could accidentally connect to the drinking water aquifers and contaminate them. Groundwater monitoring alone may not necessarily detect groundwater contamination from hydraulic fractures." (pg. 53).
- **Agricultural Reuse:** Oil field wastewater used to irrigate crops "may contain hazardous chemicals... Required testing and treatment of produced water destined for reuse may not detect or remove chemicals associated with hydraulic fracturing and acid stimulation" (pg. 44).
- **Percolation Pits:** Unlined pits, "provide a potential direct pathway to transport produced water constituents, including returned hydraulic fracturing fluids, into groundwater aquifers. Groundwater contaminated in this way could subsequently intercept rivers, streams, and surface water resources... An estimated 36% of percolation pits in the Central Valley operate without necessary permits from the Water Board" (pg. 42).
- **Earthquakes:** "Across all six oil-producing basins, over 1,000 wells are located within 1.5 mile (2.5 km) of a mapped active fault, and more than 150 within 650 ft (200 m)... Disposal of produced water by underground injection could cause felt or damaging earthquakes... It can be very difficult to distinguish California's frequent natural earthquakes from those possibly caused by water injection into the subsurface" (pg. 49).
- **Climate:** "Overall greenhouse gas emissions due to production could increase if well stimulation were stopped in California" (pg. 59).

Throughout the report, the authors highlight the limited availability of data and poor public record keeping. In particular, the report condemns California's Division of Oil, Gas and Geothermal Resources' (DOGGR)

reliance on antiquated data collection techniques, and recommends that the Division digitize paper records and organize data into a searchable database to better facilitate scientific analysis.

- On one of the most pressing issues facing the California oil industry today, the injection of produced water into drinkable aquifers, the report noted, "Data reported to the state on the destination of produced water is incomplete and possibly inaccurate" (pg. 67).
- The report ask DOGGR to modernize their public record keeping for oil and gas production, noting that they need to "digitize paper records and organize all datasets in databases" in order to "facilitate searches and quantitative analysis" (pg. 67).

Editorial What we don't know about fracking could hurt us

By THE TIMES EDITORIAL BOARD

JULY 14, 2015, 5:00 AM

A year and a half in the making, a new scientific report on hydraulic fracturing in the state offers Californians the less than satisfying revelation that scientists are still in the dark about fracking. That's not to denigrate the report released last week by the California Council on Science and Technology, which was carefully researched, objectively written and based on the best available information. The problem is that the best available information is terribly deficient, which should give pause to state residents and regulators.

Fracking, a form of oil well stimulation, uses chemical-laced water injected into the ground at high pressure to open fissures and extract previously unreachable oil or gas. According to the report, there is inadequate information about more than half the chemicals used in fracking, including their toxicity levels and potential danger to the environment and public health. That information is important because wastewater from fracking operations has to be dumped somewhere, and in some cases ends up in unlined ponds, from which it can trickle into groundwater that might be used for drinking, the report said.

The wastewater also might be used to irrigate crops, the report noted, and although such water is supposed to be treated first, no agency is making sure that happens.

How big is the risk? Probably low, the report surmised, but we don't know that either. It certainly doesn't inspire confidence that lax oversight by the state's Division of Oil, Gas and Geothermal Resources allowed wastewater from oil drilling operations to be stored in hundreds of wells that were supposed to have been protected. Californians wouldn't even have this new report if not for legislation passed in 2013, which required the state's minerals overseer to commission it and develop regulations requiring extensive monitoring of and reporting on fracking operations.

But because of timing glitches, the regulations came out a week before the report did — not an ideal process. And although the agency overseeing oil and gas is under new management and has pledged to take the report's findings into consideration when issuing new rules, Californians need more — including an independent overseer — to guarantee that this mission is carried out effectively.

Sen. Fran Pavley (D-Agoura Hills), author of the 2013 fracking bill, is adding provisions to an existing bill to address some of the issues in the report. SB 248 would phase out the use of unlined ponds for waste and call for a uniform list of allowable chemicals in fracking. That's good as far as it goes, which isn't nearly far enough.

Pushing forward in the dark isn't smart. It has long been apparent that a moratorium on major new fracking is in order until more is known about its risks and benefits. That's all the more reasonable now that we understand how little we understand.

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Water and wildlife may be at risk from fracking's toxic chemicals, panel finds

By JULIE CART

JULY 9, 2015, 6:03 PM

Hydraulic fracturing uses a host of highly toxic chemicals — the impacts of which are for the most part unknown — that could be contaminating drinking water supplies, wildlife and crops, according to a report released Thursday by a California science panel.

The long-awaited final assessment from the California Council on Science and Technology said that because of data gaps and inadequate state testing, overwhelmed regulatory agencies do not have a complete picture of what oil companies are doing.

The risks and hazards associated with about two-thirds of the additives used in fracking are not clear, and the toxicity of more than half, the report concluded, remains “uninvestigated, unmeasured and unknown. Basic information about how these chemicals would move through the environment does not exist.”

Jane Long, the report's co-lead, said officials should fully understand the toxicity and environmental profiles of all chemicals before allowing them to be used in California's oil operations.

Recycled oil field wastewater used for crop irrigation may contain chemicals used during fracking and other well stimulation procedures, the report said. While treatment of that water is required, the testing is not adequate, the report said. Long said researchers did not find strong evidence of fracking fluids in irrigation water but added: “What we did find was that there was not any control in place to prevent it from happening.”

The probability of toxic exposure to humans and the environment is low, but no studies have been conducted assessing the risk, the report's authors said.

Sen. Fran Pavley (D-Agoura Hills) said that she planned Monday to propose amendments to

legislation she already had introduced, based on some of the report's findings. They include the development of an approved list of chemicals, with known toxicity, for use in oil development as well as the phasing out of the use of unlined pits to dispose of oil field waste.

"Government agencies, the public in general and residents living near well sites need to know in detail about the presence of dangerous chemicals mixed in water used in fracking and then pumped to the surface as byproducts," Pavely said in a statement.

The potential for contamination linked to fracking, according to the report, demands that the state conduct more thorough studies in order to close significant data gaps.

For example, there is little evidence to show that oil activities are contaminating groundwater, Long said, but little analysis has been done.

"We think the fact that we haven't looked for it is an issue," Long said. "You can't find what you don't look for."

Seth Shonkoff, lead author on the public health sections of the report, said he was surprised to learn during his research that recycled wastewater from oil fields was being used on crops.

"We've got to know what to test for ... to know that what we are putting onto the crops is safe," he said. "Until we have that data, I don't know how we can assure farmers and consumers that their food is safe."

Among the findings of the report, commissioned by the California Natural Resources Agency and written by the California Council on Science and Technology and Lawrence Berkeley National Laboratory:

-- Strong acids, solvents and biocides in oil field water present a "significant hazard to aquatic species and other wildlife, particularly when released into surface water." All of the chemicals are "undesirable" in drinking water.

-- Injection wells that the state is allowing to dispose of oil field wastewater into federally protected aquifers may have received water containing fracking fluids.

-- Oil operations in federal waters offshore are discharging wastewater directly into the ocean, against EPA regulations.

-- More than half the produced water from fracked wells is disposed of in unlined pits. "We do not know how long hydraulic fracture chemicals persist in produced water or at what concentrations or how these change in time, which means that hazardous levels of contaminants ... cannot be ruled out."

-- About one-third of the oil field wastewater pits in the Central Valley are operating without proper permits.

-- About 1.7 million people in Los Angeles live or work within one mile of an active oil or gas well, and atmospheric concentrations of pollutants near those sites "can present risks to human health." The report recommended an extensive epidemiological study of residents living near oil production sites. California does not regulate how close oil operations can be from residences, schools or hospitals. The report recommends that California adopt a setback requirement.

-- Oil and gas development causes habitat loss and fragmentation in ecologically sensitive areas of Kern and Ventura counties.

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UPDATED

6:03 p.m.: This article was updated.

This article was originally published at 11:39 a.m.

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JULY 31-AUG 2, 2015

What the Frack Is Happening Under Long Beach?

By OC Weekly Contributor

Published Wed., Apr. 22 2015 at 2:05 PM



Chelsea Mosher

Like the sign says

By Joshua Frank

Perhaps you've driven past them at night: several towering panels lit up like a psychedelic art installation, with a 45-foot waterfall gushing down the side and onto the boulder-strewn, pedestal-shaped, very-much-manmade island. The brightly painted structures seem harmless enough--if a bit out of place several hundred feet offshore from Long Beach's affluent Bluff Park neighborhood--but what goes on behind the palm-lined façade is profoundly controversial and potentially very dangerous.

Built in 1965, the four THUMS islands--so named for the companies that first developed the sites: Texaco, Humble, Unocal, Mobil and Shell--were designed by esteemed landscape architect Joseph Linesch, who had a knack for turning blight into eye candy. While Long Beach's Gas & Oil Department (LBGO) operates the islands, a wholly owned subsidiary of Occidental Petroleum (known as

Occidental Long Beach Inc.) is contracted to perform the work of extracting fossil fuels from beneath the ocean floor.

The THUMS islands include portions of Pier J in the Port of Long Beach, and were constructed from a goliath supply of stone from Catalina Island--640,000 tons of it--along with 3.2 million cubic yards of sand from Long Beach Harbor. The purpose was to exploit the vast reserves of the Wilmington Oil Field, which stretches 13 miles long and 3 miles wide, from onshore San Pedro to offshore Seal Beach. Since it was first discovered in 1932, 6,150 wells have been drilled in the oil field, with nearly 1,550 pumps still active.

It's estimated the Wilmington reserves originally contained 3 billion barrels of oil, with around 300,000 million barrels left in the tank today. In 1940, Long Beach began to sink as a result of so much oil being drained from beneath the city. By the early 1950s, this so-called "subsidence" phenomenon was causing the city's elevation to drop by approximately 2 feet per year. The results were destructive: Streets cracked, pipes warped, and buildings became unsafe. The sinking even caused minor geological tremors. In 1953, Long Beach began injecting water into the oil reservoirs, and the subsidence stopped.

It's safe to say the wells have been a bit of a cash cow for Long Beach, accounting for almost 5 percent of the city's total budget--almost \$80 million annually over the past two years alone. The city has used nearly every technique in the oil playbook to pump the liquid loot out of the ground, including the contentious practice known as hydraulic fracturing or fracking. The process involves shooting a virulent cocktail of water, sand and chemicals deep underground to force oil and natural gas to the surface. Fracking is typically utilized in tricky geological areas where other extraction methods can't get the job done.

In March, the *Weekly* obtained an internal two-page city document produced by LBGO that was meant to only be seen by the city's 11-member Sustainable City Commission, which reports to the mayor's office and advises the City Council. Titled "Hydraulic Fracturing in Long Beach," the memo states that fracking was started on the THUMS islands in the early 1970s and has been practiced consistently in Long Beach since the mid-1990s, with a total of 196 wells fracked so far. The document goes on to say that "LBGO has followed all Federal and State regulations . . . [and] has safely conducted a hydraulic fracturing operation and, at the same time, successfully addresses many of the public concerns."

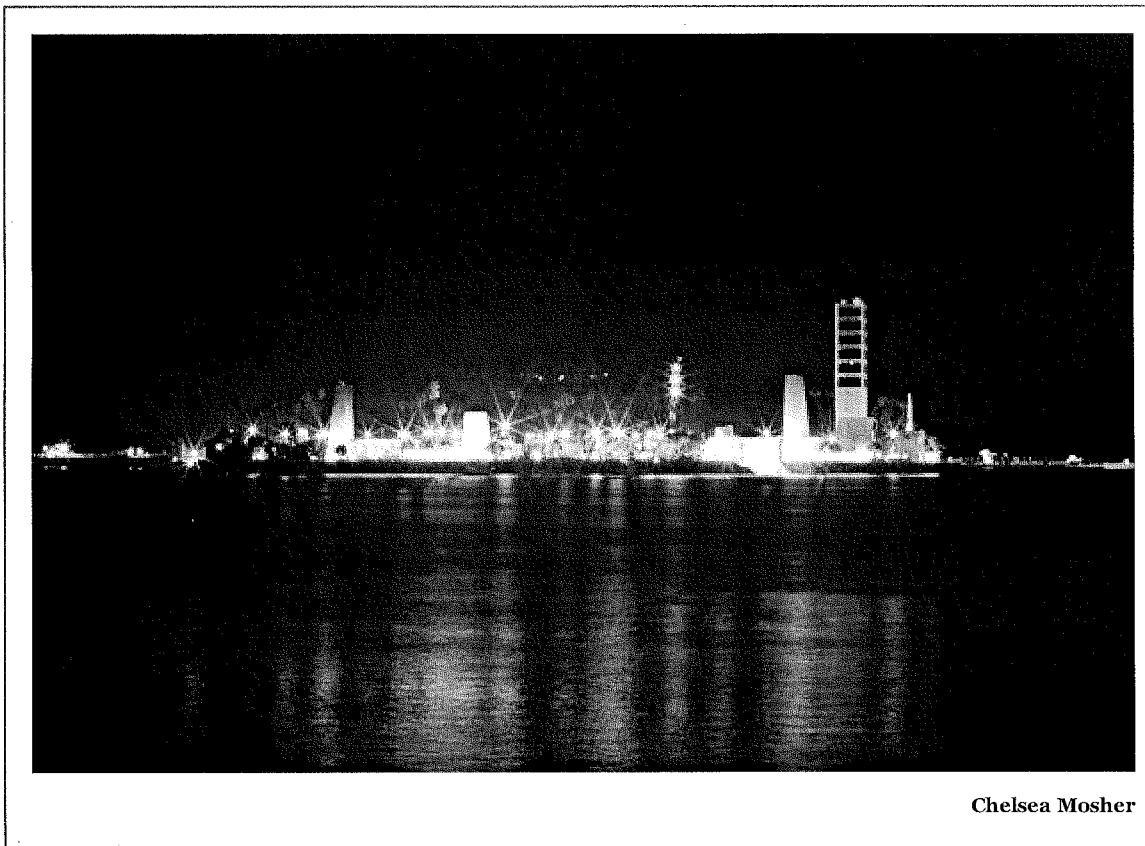
With this odd memo, LBGO appears to be attempting to fend off internal critics as tales of fouled aquifers, toxic air pollution and earthquakes associated with fracking operations have made their way to California from places such as Oklahoma, Texas and Pennsylvania, where these types of problems have been well-documented. Citizens across the country, including many in California, want fracking banned outright. Their belief that the practice is unsafe is shared by many in the scientific community.

Retired geologist Dr. Tom Williams finds it's not only fracking that's cause for concern in Long Beach, but also all of the oil and gas operations. The oil-industry insider now advises various groups in the Los Angeles area that oppose fracking. "Long Beach is sitting on a bomb," asserts Williams, a no-nonsense man who worked for more than 20 years with Parsons Oil & Gas and 10 years with the government of Dubai. "[An earthquake produced by the] Palos Verdes fault zone will eventually hit, and well cases will pop, and there'll be a massive spill."

Williams' prediction isn't as far-fetched as you might think. A significant 6.4 magnitude earthquake struck Long Beach in 1933, the largest quake ever recorded to have hit the Southern California coast.

(The Palos Verdes fault line, which slices directly through the Port of Long Beach, is estimated to have the potential for a 7.25 magnitude quake.) According to geologists, it's not a matter of if such an event will happen, but merely how soon. When a quake that large strikes, there's really no telling how much damage it will cause Long Beach's fossil fuel projects, especially the pipelines that carry oil below the seabed, up to 155,000 barrels per day, from the oil islands to onshore refineries in Torrance. (Spills do happen. In 2013, a leak occurred in the Port of Long Beach, and the THUMS lines were temporarily taken offline.)

The fight against fracking is spreading across California, with voters backing ballot measures banning the practice in San Benito and Mendocino counties. In the Los Angeles area, Beverly Hills has outlawed the practice, and residents of Culver City, Carson and Baldwin Hills are pushing for similar resolutions, as are citizen groups in Orange County's Brea.



Chelsea Mosher

It's a warm Sunday afternoon, and six members of the small, feisty outfit called Stop Fracking Long Beach (SFLB) are gathered at the quaint downtown Green House café for a biweekly brainstorming meeting. The six-week-old organization, which already counts nearly 300 members on its Facebook page, is committed to figuring out what's going on in--or rather, underneath--their town. They don't swallow the story the city government has been feeding them, that fracking is harmless and they need not worry.

"We know what we're up against," insists Peggy O'Neil Rosales, a longtime Long Beach resident and brand-new member of SFLB. "Long Beach is the only city in the country with its own Gas & Oil Department. That tells you something right there. Sure, they say [fracking] is fine and safe, but there's absolutely no public oversight whatsoever. We know very little about what's really going on and how it's impacting our community."

City officials are doing their best to keep it that way. Long Beach's new Mayor Robert Garcia, whom many consider to be a progressive, pro-environment Democrat, has long been an advocate for transitioning away from fossil fuels in order to combat climate change. But Garcia doesn't appear to be overly troubled by oil production's more immediate impacts here in the city. "The mayor supports Governor [Jerry] Brown's efforts to combat climate change, as well as the study of fracking's health, environmental and economic impacts," says Daniel Brezenoff, Garcia's spokesperson. "Our operations are assessed regularly by multiple state and federal agencies."

That's exactly the problem, argue environmental activists who have consistently targeted Brown for his warm embrace of oil and gas production in California. In February, groups protested during Brown's speech at the Oakland March for Real Climate Leadership. The demonstration occurred the same week a petition containing more than 184,000 signatures was delivered to the governor's Sacramento office, urging him to ban fracking throughout the state.

"Governor Brown has painted a bold vision to make California a global leader on climate change, but he has made zero mention of the extreme dangers of fracking or made any substantial attempt to address it," Tim Molina of California-based Courage Campaign, one of the groups responsible for gathering signatures, complained in a statement. "We met with Governor Brown to urge him to follow the lead of New York Governor Cuomo and acknowledge the real threat that fracking poses to the health and safety of our communities--and implement a statewide ban on fracking."

So why are environmental activists so worried? To begin with, they argue, fracking pollutes groundwater and excessively wastes precious supplies during a severe drought--some 70 million gallons were diverted for use in fracking last year in California alone. In fact, the California Environmental Protection Agency admitted in early February that state officials allowed more than 2,500 fracking wells to dump wastewater into protected underground aquifers, mostly in Kern County. Nonetheless, oil and gas development has been exempt from the mandatory water restrictions Brown announced in early April.

That isn't the type of failed leadership Mayor Garcia ought to be following, contends Alexandra Nagy, a community organizer for Food & Water Watch, a nonprofit that's fighting fracking. And, Nagy believes, it's not just water pollution we should be worrying about. "If you live within 1,500 feet of an oil and gas well, you are considered a sensitive receptor, meaning you are being exposed to toxic chemicals and carcinogens coming from the oil and gas field and are at higher risk of illness and disease," she says. "Of all the fracked wells in California, half are within 1,500 feet of a sensitive receptor. Los Angeles County is the second most productive county after Kern, and the Wilmington Oil Field, which lies through Long Beach, is the most productive field in LA County, third most in the country."

Dozens of recent studies back up Nagy's claims. Last year, a peer-reviewed paper published in Environmental Health Perspectives found that people were more than twice as likely to have skin and respiratory ailments if they resided near natural gas wells as opposed to those who did not. The study was followed up with a 56-page report from Earthworks, a public interest group, which looked at FLIR (infrared) camera film from several oil and gas facilities in California. The organization's air samples at the sites found the "presence of 15 compounds known to have negative effects on human health, as well as 11 compounds for which no health data is available." The report also noted that residents in these areas reported smelling odors likely related to nearby oil development and experienced higher than normal rates of skin rashes, sinus problems, headaches, nosebleeds and other ailments.

While Long Beach has made strides in cleaning its filthy air during the past two decades, the greater Long Beach area still ranks as one of the most polluted in the entire country, according to the American Lung Association and the South Coast Air Quality Management District (SCAQMD). Local air-quality problems have long been associated with diesel rigs and large container ships traveling in and out of the bustling Port of Long Beach, but no doubt local oil and gas drilling has contributed to the problem. (When asked how the Long Beach Health Department manages risks associated with oil and gas production, the agency did not respond.)

Elliot Gonzales, a 27-year-old SFLB member and the co-founder of Green Long Beach, says he immersed himself in local environmental and social justice causes after arriving in the coastal city from his home state of Florida. "I was just totally disgusted by the air quality when I first got here," he says. "So many people here just accept the pollution as the norm, but we don't have to. We need to make Long Beach a cleaner, better city for everyone."

Gonzales' tenacity and commitment to the environment caught the attention of former Mayor Bob Foster's staff, and he was soon appointed to Long Beach's Sustainable City Commission, on which he's served ever since, having been reappointed by Garcia last year. "I was always bugging [the City Council], so I guess they just couldn't ignore me any longer," Gonzales says with a chuckle.

While the Sustainable City Commission lacks regulatory muscle, the body can bring issues before the City Council and is set up to serve as a sounding board for the public. "Fracking is a political quagmire for the City Council," Gonzales admits. "But that's not a reason to ignore the issue that so many of us are concerned about."

In December, Gonzales asked for fracking to be placed on the commission's agenda; the initial response came the following January. It was terse, to say the least. "With the Sustainability Commission, [fracking] touches on other issues that make it highly sensitive," said Larry Rich of the Office of Sustainability during the January meeting. "So that's why it's not on our agenda tonight . . . and unless we get some specific direction from [City Council] to take it up as an issue, we won't be seeing it on our agenda."

Gonzales, who was absent during that meeting, wasn't pleased when he heard Rich's response. "All we really want is more accountability and an open forum to discuss the issues of fracking in a public setting," he says. "I believe it's unfair to communities here in Long Beach to not even be open to discussing the potential impacts of fracking on air and water quality. How can [city government] ignore these types of public-health concerns?"

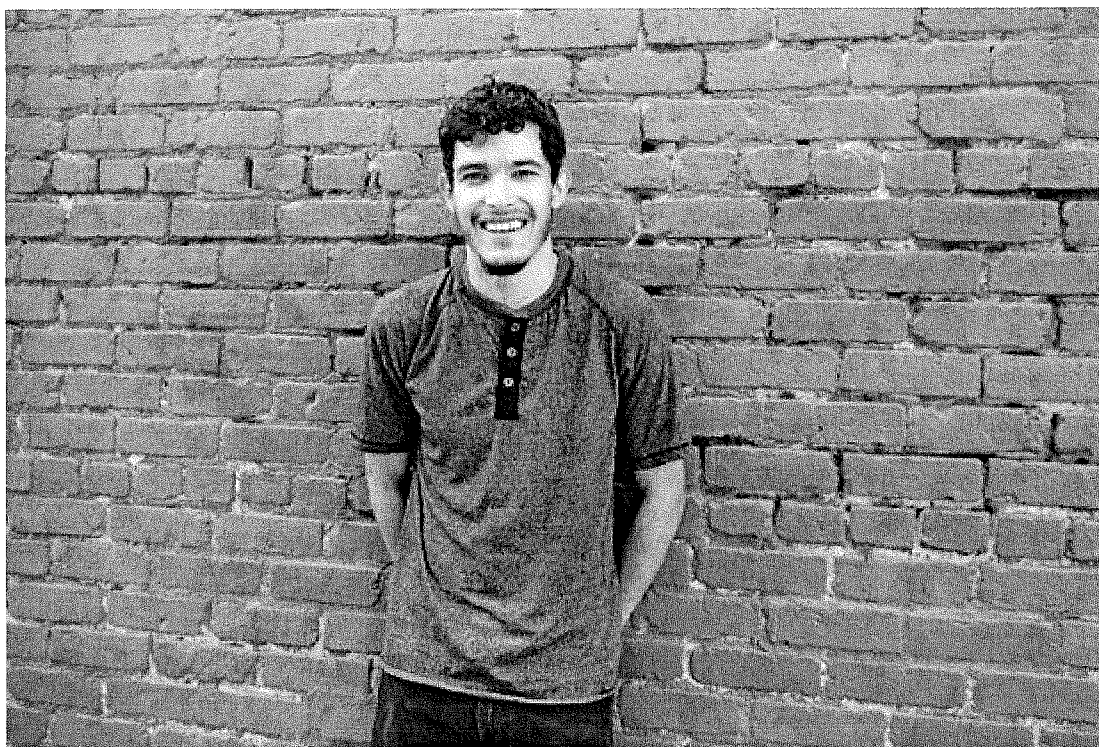
On March 26, SFLB members and others came out to voice their fears about fracking at the commission's monthly meeting and back up Gonzales' plea to make it an agenda item. Six local residents took the podium to address why they felt it was crucial to press the City Council and Garcia to make the subject worthy of public debate.

"I am here today to beseech you to bring the issue of fracking to the City Council," resident Erin Foley said. "We know that fracking affects us, whether fracking is recognized as happening here or not, or recognized as a danger by the oil and gas industry. . . . This is a local, state and federal issue, and I feel that starting locally is very important. . . . We know there are pipelines going underneath Long Beach to San Pedro, and that fracking has been occurring on the THUMS islands off the shore of Long Beach for more than a decade, so that makes the people around here a stakeholder in this."

Christopher J. Garner, who directs the city's Gas & Oil Department, downplayed the importance and

risk of fracking in an interview with the *Weekly*. "The last time a [frack] job occurred in [Long Beach was] over a year ago," he says. "I can assure you that the expert opinion [is] . . . that our operations are very well-regulated by several federal and state regulatory agencies. Extreme caution is made to eliminate or minimize any risks to the environment."

Yet the *Weekly* has received exclusive data gathered by FracTracker, a leading resource on oil and gas operations, which indicates that hydraulic fracturing has occurred in Long Beach no less than 22 times since 2012. In a draft report commissioned by California Natural Resources Agency released in January, the authors estimated the "integrated data imply a rate of 16 hydraulic fracturing operations per year offshore in California waters, all in the offshore portion of the Wilmington field [in Long Beach]."



Chelsea Mosher

Fracking foe Elliot Gonzales

On March 24, when the California Division of Oil, Gas & Geothermal Resources (DOGGR) held its "aquifer exemption workshop" at the Holiday Inn near the Long Beach Airport, the news was still fresh--via a Feb. 9 report in the Associated Press--that California officials had allowed the injecting of fracking waste into state aquifers no less than 2,500 times.

The meeting started out like so many other bureaucratic slumber fests, however. A headache-inducing PowerPoint presentation followed by more assertions that DOGGR was doing everything in its understaffed power to protect California's water resources, while continuing to allow "aquifer exemptions" to the very industry responsible for polluting groundwater in the state.

Demonstrators associated with Californians Against Fracking held up signs near the workshop's entrance, but inside the conference room, the mood was much more subdued. Attendees were nodding off as DOGGR officials outlined data requirements and procedures oil companies could

follow so they could continue to inject frack water into underground wells. That's when things got interesting.

First, a well-dressed activist politely interrupted the presentation by asking, "What is this workshop all about? Is it to teach them how to continue to poison our water?"

Then another person spoke up and voiced a similar sentiment. Suddenly, the meeting had a little life to it. Alicia Rivers, who works with Communities for a Better Environment, took out two bottles of "frack water" and asked if DOGGR regulators would be interested in taking a swig. Next, the ad-hoc group rolled out a banner that read, "Gov. Brown, Stop Letting Big Oil Poison Our Water!"

"You are our regulators! You have violated your mission," announced Hamid Assian of Food & Water Watch as he walked toward the front of the room. "We hereby serve you your pink slip! Thank you!"

In late 2013, the California State Assembly passed Senate Bill 4, its first attempt to employ regulations over the fracking. However, last-minute amendments were added to the bill after heavy lobbying by oil and gas companies, causing most environmental groups to withdraw their support. While the regulations, which won't go into full effect until January 2016, will require operators to list the types of chemicals they use in frack jobs, many well-stimulation projects will be exempt from environmental review, groundwater monitoring and the public notification process. The *Los Angeles Times* even editorialized the "Legislature should be embarrassed by its reckless attitude on this issue."

Most of the well-stimulation that takes place in Long Beach will not be regulated by SB 4, even though certain impacts from oil and gas development could be just as great as those posed by hydraulic fracturing (also known as hydro-fracking), says Williams. For instance, Long Beach utilizes an extraction method known as gravel packing, a process that's not regulated under the bill.

SCAQMD notes that gravel packing is the second most common form of well-stimulation in the South Coast region. The technique uses a mixture of dangerous chemicals to stimulate rocks for oil, leaving nearby communities vulnerable to air toxins and vapors. Gravel packing, which applies many of the same chemicals as fracking, such as benzene and biocides (both known to kill living organisms and cause cancer), has been used offshore at least 90 times in Long Beach in the past three years.

However, the most common form of drilling in Long Beach is known as acidizing, some of which will be regulated under SB 4. Acidizing alone has occurred no less than 150 times in Long Beach since 2012. As with hydro-fracking, acidizing contains hydrogen fluoride (HF), a colorless gas that dissolves in water. Even though you can't see it, HF is not benign.

Scientists say it's one of the most hazardous chemicals in commercial use today. According to the Centers for Disease Control, exposure to HF can cause skin damage, chronic lung disease, permanent visual defects and even death. While acidizing and gravel packing are most popular in Long Beach, they have also been used in Huntington Beach--a combined 31 times since 2012.

Large portions of northern Orange and south Los Angeles counties sit atop a major aquifer that provides large amounts of cheap water to local communities, 60 percent of Long Beach's alone. The potential for fracking operations to damage these precious water supplies is just too risky, critics contend. That's why activists say Long Beach's City Council and Mayor Robert Garcia must be forced to address the issue.

"We won't stop until they do," promises Rosales. "This issue is just too important. We aren't about to

let it go away."

Even so, Nagy predicts Long Beach officials, cognizant of the dependency of their coffers on oil and gas revenues, will be reluctant to offend the local powers that be. "The oil and gas industry is so deeply embedded in Long Beach government, budget and politics," she says. "The status quo is not going to challenge themselves. For them, it's better to keep the public in the dark."

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For Immediate Release, July 9, 2015

Contact: Clare Lakewood, (510) 844-7121, clakewood@biologicaldiversity.org**New Study: Fracking Pollution Poses Major Threat to California's Air, Water*****Scientists' Warnings Come Too Late to Shape State's Weak Fracking Regulations***

SACRAMENTO, Calif.— A study released today by the California Council on Science and Technology warns that fracking and other oil extraction techniques emit dangerous air pollution and threaten to contaminate California's drinking water supplies. Millions of Californians live near active oil and gas wells, which exposes them to the air pollutants identified in the report.

The troubling findings come a week after Gov. Jerry Brown's oil officials finalized new fracking regulations that do little to address such public health and water pollution risks.

"This disturbing study exposes fatal flaws in Gov. Brown's weak fracking rules," said Hollin Kretzmann of the Center for Biological Diversity. "Oil companies are fouling the air we breathe and using toxic chemicals that endanger our dwindling drinking water. The millions of people near these polluting wells need an immediate halt to fracking and other dangerous oil company practices."

Last week the state's Department of Conservation began implementing new fracking regulations and finalized an assessment of fracking's health and environmental risks, even though the science council had not finished evaluating fracking's dangers. The science council is an independent, nonprofit organization that advises California officials on policy issues.

Today's report concludes that fracking in California happens at unusually shallow depths, dangerously close to underground drinking water supplies, with unusually high chemical concentrations. That poses a serious threat to aquifers during the worst drought in California history.

Air pollution is also a major concern. In the Los Angeles area, the report identifies 1.7 million people — and hundreds of daycare facilities, schools and retirement homes — within one mile of an active oil or gas well. Atmospheric concentrations of pollutants near these oil production sites "can present risks to human health," the study says.

But Gov. Brown's new fracking regulations do not address deadly air pollutants like particulate matter and air toxic chemicals. A recent [Center analysis](#) found that oil companies engaged in extreme oil production methods have used millions of pounds of air toxics in the Los Angeles Basin.

Among the science council's other disturbing findings:

- California places no limits on how close oil and gas wells can be to homes, schools or daycare facilities, which can expose people to dangerous air pollution from fracking and other oil extraction procedures.
- Serious concerns are raised over the oil industry's disposal of fracking waste fluid and produced water into open pits and the use of oil waste fluid to irrigate crops.
- The health and water pollution impacts of fracking chemicals that could be present in oil waste that's dumped into open pits "would be extremely difficult to predict, because there are so many possible chemicals, and the environmental profiles of many of them are unmeasured."
- Wildlife habitat can be fragmented or lost because of fracking and other oil development — and fracking-related oil development in California "coincides with ecologically sensitive areas" in Kern and Ventura Counties.
- Confirmation that many oil industry wastewater injection wells are close to active faults — a practice has triggered earthquakes in other states. The science council identified more than 1,000 active injection wells within 1.5 miles of a mapped active fault — and more than 150 are within 656 feet.

"These troubling findings send a clear message to Gov. Brown that it's time to ban fracking and rein in our state's out-of-control oil industry," Kretzmann said. "California should follow the example set by New York, which wisely banned fracking after health experts there concluded this toxic technique was just too dangerous."

The Center for Biological Diversity is a national, nonprofit conservation organization with more than 900,000 members and online activists dedicated to the protection of endangered species and wild places.

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