

Moratorium On Oil And Or Gas Exploration And Development Within Coastal Counties

Residents of the County desire to amend the Mendocino County General Plan Policies regarding oil and or gas exploration and or development, prohibiting exploration and or development of oil and gas resources from surface and subsurface locations within the unincorporated area of Mendocino County, and process a General Plan Amendment to add clarifying language to General Plan Policy 19.04.010 to make it clear that the prohibition on oil and or gas development also applies to onshore oil and or gas exploration and development not related to offshore development.

Additional language to the original Oil Moratorium Ordinance inclusive of new technologies and related known or potential impacts to the environment, land values, ecosystem services and functions that provide the basis of the County wealth in natural resources, and residents health, a foundation for agricultural production, and air and water quality within the County.

[Conventional Shows, Unconventional Production](#), Shows and Plays

[Statistical Probability of plays, Investment, Leases](#)

[Occidental Petroleum, Chevron, Local Acreages & Ownerships](#) (2 maps)

[Mendocino County Considerations](#) Regarding Land Use Regulations and a comparison of land use plan ordinances in 'producing counties' in California; [Santa Barbara County](#), [Kern County](#), [San Mateo County](#), [Santa Cruz County](#).

Local Conventional Shows [DOGGR Map 630](#), [Regional Conventional Hydrocarbon Resources Known Well Locations, Drilling Operations](#), Boundaries of the Franciscan Oil/Gas Play Well [Depth, Source Rocks, Timing And Migration](#), Conventional/Unconventional Production [Williamson Act](#), Lands Under Agricultural Preserve Contract in the County of [Mendocino](#) Considerations Regarding Hydraulic Fracking [In Santa Cruz County](#)

While there is a substantial potential for hydraulic fracturing for oil within the Monterey Formation in the southern part of the State, the potential for further oil and gas exploration in Mendocino County, particularly of unconventional resources, is admittedly uncertain.

Conventional exploration and production methods, particularly those preceding the 1980's technological advancements in electronic logging of well data and cores, gave the gamble of drilling a producing well - a well known moniker, "I'd rather be lucky than smart". Even advancements in 2-D imagery of potential deposits of oil and gas left behind a lot of dry holes. Through advancements with 3-D sub-strata imaging of vast geologic regions within the last decade the guesswork is now minimized.

Conventional Shows, Unconventional Production

The once conventional 'exploration and production' of hydrocarbons in the inland Franciscan Shales of Mendocino, Lake and Humboldt Counties, using the determining factors of economic recovery and available technology, left behind shallow wells (by today's standards) many of which were plugged as dry holes, wells with low production volumes, were also plugged. Shut-

in wells cannot produce gas at their existing depths and are sealed off in order to maintain the pressure on remaining deposits.

Records show flows of gas, and of oil along the 101 corridor east of Willits, and around Ukiah, south of 128 near Boonville and also further south. While past well data are usually from exploration wells, or conventional reservoir production wells, these 'conventional reservoirs' are usually associated with locations that are suitable for recovery of unconventional resources.

“Large sparsely drilled areas are likely to have more undiscovered accumulations than small sparsely drilled areas of similar geology, geologic history, and exploration intensity.”

“A Township or Section (numbered sectors) with exploratory wells but no discovered accumulations is unlikely to have any undiscovered accumulations. This is probably true for sectors with several unsuccessful wells that drilled deep enough to penetrate economic basement. However, it may not be true for sectors that have been tested by only one well if that well was located along one edge or near a corner of the sector, was too shallow to test the entire thickness of prospective strata, or was improperly tested or completed.” (USGS)

While it can be shown that there is no active production of conventional resources in Mendocino County, any recent exploratory well locations are confidential. Thus the potential for both horizontal or slant deviant drilling and multiple wells per pad combined with hydraulic fracturing in Mendocino County at some point in the future cannot be entirely ruled out. Technically feasible and economically viable approaches may be discovered by the oil industry to tap the tight-gas and shale oil potential in the Franciscan formations, and producing interests could shift from the mature oil-rich resource areas in southern California and the un-associated oil or gas-yielding formations in other parts of the State (to the north and northwest including Humboldt, Mendocino, Sonoma, Lake, Glen, Tehama, and Butte Counties).

It cannot be ignored, that the wells in Mendocino and Humboldt Counties are owned by the same Big Oil Corporate Petroleum Industries that own the lease-held agreements to production on tracts of lands in the Shale States of Texas, Oklahoma, New York, Colorado and Kern. Bakersfield is more like a Corporate Park in the State of Kern and most of the north coast county wells are owned by Corporations with 2 addresses, one in Houston, and one in Bakersfield. Holdings in Bakersfield and throughout the Kern Oil Fields may change hands for flexible market viability and company survivability, but those same companies selling leased acres even in other Shale plays in other States, (to reduce debt load from expansion), have held onto ownerships in the North, and are expanding the lease-acres. Chevron, Vintage (OXY) and INNEX either hold leases or own acreage in Humboldt, Mendocino, Sonoma and Marin Counties.

OXY lands,
Humboldt
County

OXY lands,
Mendocino
County

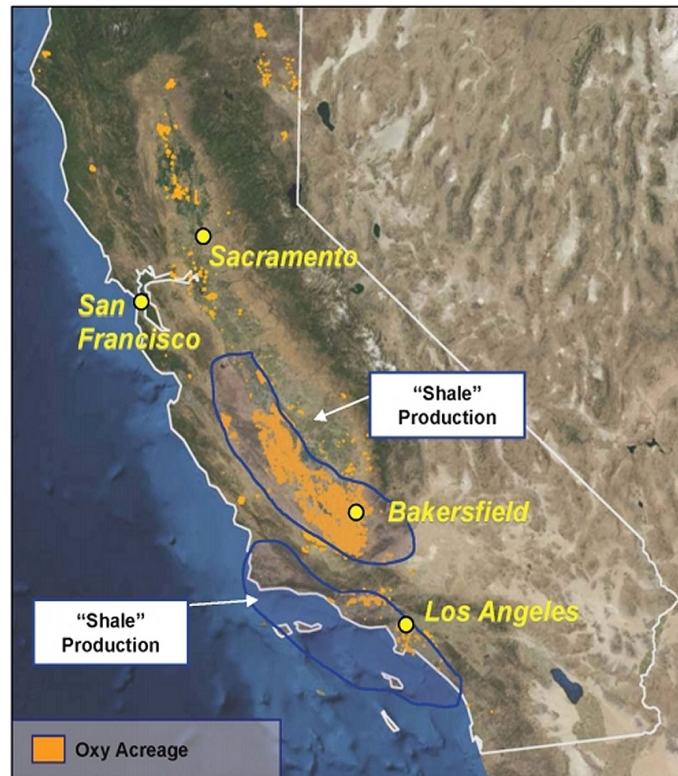


Figure 7. Distribution of potential tight oil production from the Monterey shale as considered in the EIA/INTEK report (2011).¹⁸

Orange areas are leases held by Occidental Petroleum Corporation, the largest leaseholder. The blue outlines are the general boundaries of the Monterey tight oil play.

USGS 2012
Map 630
W6-3



Mendocino County Considerations Regarding Land Use Regulations

The Department of Conservation Division of Oil and Gas has authority over wells and other subsurface activities related to oil and gas exploration and production. However, Counties retain authority over surface activities, including grading, building and construction. Counties also have authority to regulate the location of oil and gas exploration activities through their zoning authority.

In the process of permitting overlying land use activities, as the lead agency, the County must also comply with the California Environmental Quality Act (CEQA) and take into consideration all potential impacts on the environment, including subsurface impacts. Monterey, San Benito, and Santa Barbara have developed regulations that require extensive information about the surface and subsurface aspects of proposed hydraulic fracturing operations.

A Comparison Of Other Counties ([see end note](#))

Santa Barbara County regulates oil and gas development under the Petroleum Code, and the Land Use and Development Code provisions relating to, "Oil and Gas, Wind Energy, and Cogeneration Facilities." Within the Coastal Zone drilling and production activities require a land use permit, a conditional use permit, an Exploration Plan and a Production Plan. For inland areas, a land use permit only is required (not a conditional use permit), and operators may seek approval of a combined Oil Drilling and Production Plan with some exemptions available. Oil and gas development is allowed in zoning districts encompassing much of the inland area.

Kern County allows unrestricted drilling and requires no permit or review for an oil or gas well in certain zone districts as long it complies with state law and county fire safety regulations. In other zone districts a ministerial permit is required as long as the plot plan complies with the standards in the code. In other zone districts a conditional use permit is required with approval by the Planning Commission. In addition, DOGGR serves as the lead agency for CEQA review of all wells located in Kern County, where the vast majority of oil wells (more than 80%) in the state of California are located. In Kern County, this activity is a major economic sector that provides jobs, household income, and governmental revenues.

In San Mateo County, oil and gas exploration is permitted within certain zone districts. To drill a new well or re-enter an existing well an application for an exploratory well permit is required. To operate a producer well a production well permit is required. These are conditional use permits that require review by the Planning Commission. Environmental review is completed by the County.

The Santa Cruz County Code provides authority for regulation of energy facilities, including hydraulic fracturing activities, in multiple ordinances regulating zoning, grading, hazardous materials, and runoff and pollution. The Zoning Ordinance (Chapter 13.10) includes provisions for energy facilities on land zoned Public and Community Facilities, Commercial, Industrial, Timber Production, and Agriculture with a Zoning Administrator or higher-level discretionary

approval, which would be subject to CEQA review. An energy facility is defined as "...any public or private processing, producing, generating, storing, transmitting, or recovering facility for electricity, natural gas, petroleum, coal or other energy resource..."

In Santa Cruz County a vote of the people is required for any onshore facility necessary for or intended to support offshore oil or gas exploration or development. This requirement is reflected in both the General Plan and the County Code. General Plan Policy 5.18.4 states: Prohibit on- and off- shore oil development unless a General Plan and Local Coastal Program amendment is approved by the voters of the County which allows such development.

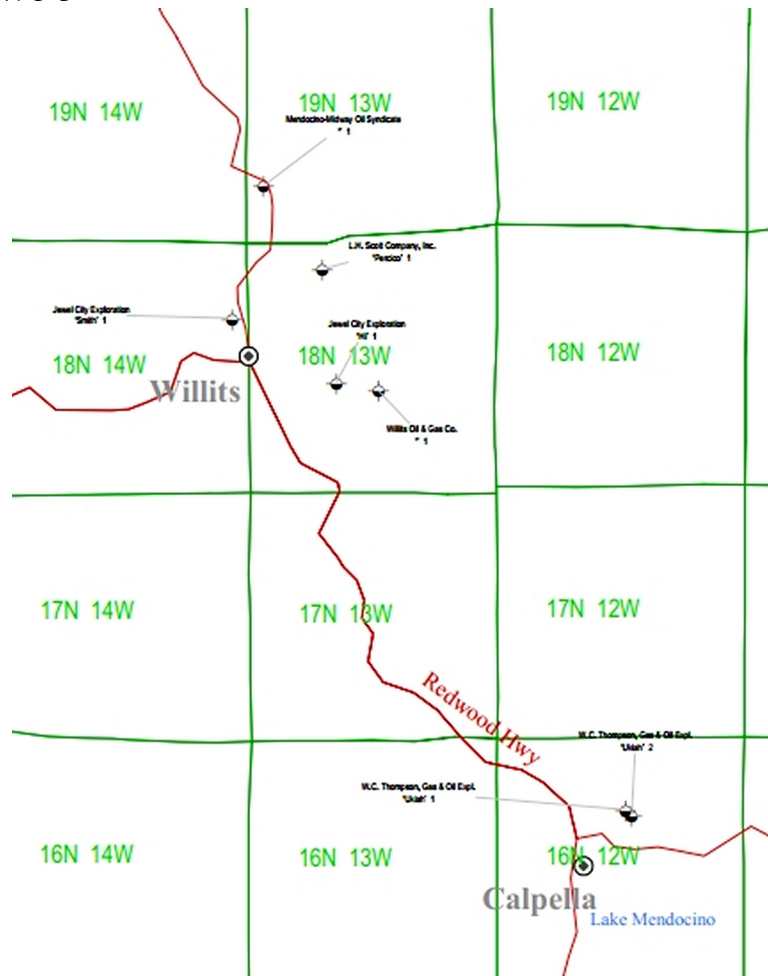
General Plan policies 7.26.4 and 7.26.5 list submittal requirements and criteria for any request for amendment of the General Plan and LCP Land Use Plan to permit energy facilities. As adopted by voters as Measure "A" on June 3, 1986 the County Code (16.55.020) states: No permit, entitlement, lease, or other authorization of any kind within the County of Santa Cruz which would authorize or allow the development, construction, or installation of any onshore facility necessary for or intended to support offshore oil or gas exploration or development shall be granted unless such authorization is approved by a majority vote of the qualified electors of Santa Cruz County, in a general or special election.

When any person proposes to undertake the development within Santa Cruz County of any onshore energy facility related to the exploration or development of offshore oil or gas resources, and requests an amendment of the County's certified Local Coastal Program to facilitate such development, the local government determination required by Public Resources Code Section 30515 shall include a vote of the qualified electors of Santa Cruz County, in a general or special election, and no local government determination approving such an amendment shall be valid unless a majority of the electors voting in such election approve the amendment proposed.

Additionally, Chapter 16.55.30 states:

No substantive provision of this chapter, however, shall be amended or repealed, except by a vote of the people. Because the Chapter 16.55 ordinance specifically applies to onshore facilities to support offshore oil or gas exploration, arguments could be made that the General Plan language should be interpreted as applying only to facilities supporting off shore operations. It could therefore be beneficial for the General Plan policy to be made more clear, to provide that it also applies to onshore oil and gas exploration and development. Therefore, staff recommends considering additional General Plan language to clarify that General Plan policy applies to onshore oil and gas exploration and development.

RECOMMENDATION by Santa Cruz Planning- That the Board accept this report and take the following action: Direct the Planning Department to work with County Counsel to consider amending General Plan Policy to make it clear that the prohibition on oil development unless a General Plan and Local Coastal Plan Amendment is approved through voter approval of a ballot measure, also applies to onshore oil and gas exploration not related to offshore development, (prior to processing a General Plan amendment to add this clarifying new language to the General Plan.)



DOGGR Map 630 W6-3

Regional Conventional Hydrocarbon Resources As Compared With Southern California

A "play" is a set of oil and or gas accumulations sharing similar geologic, geographic, and temporal properties. These are emerging resources and greater certainty will come as producers drill into geologic deposits with oil and natural gas potential and attempt to produce from them on a commercial basis.

Source rocks are those rocks, most commonly, shales and mudstones that are rich in organic matter, from which hydrocarbons, such as oil and gas, originate.

Conventional oil and gas resources are formed when oil and gas gradually migrate away from the source rock into other porous sedimentary rocks, commonly sandstones, where they become trapped beneath low permeability rocks that block further upward migration. This results in discrete accumulations, generally called fields or pools, of oil and gas.

This contrasts with continuous, or unconventional, resources, such as shale oil and shale gas, which remain trapped within the original source rock. Unconventional hydrocarbon resources, are petroleum accumulations (oil or gas) that have large spatial dimensions and indistinctly defined boundaries. Conventional accumulations float or are suspended in water; continuous, or unconventional, accumulations do not, the resource is in the rock or in the tight-sand formations (called tight-gas). Conventional petroleum hydrocarbons are often found in wet strata, saline geologic water and oil and gas liquids. These characteristics make it much more challenging to extract unconventional oil and gas resources as compared to conventional resources. Un-associated natural gas reservoirs are usually termed 'dry-gas' accumulations.

What is the potential to extract unconventional resources from the tight sands formations of the Franciscan shales? Market dynamics, access to market, global price fluctuations, and even wastewater disposal well permitting can determine when a well will be completed for the purposes of production.

It may, just be a matter of time, before a technically feasible and economically viable approach is discovered by the industry to tap the dry-gas and shale oil potential in the Franciscan play.

The potential for further hydrocarbon exploration in Mendocino County of unconventional resources, is uncertain. It appears to be quite low at this time because the vast majority of the potential for economic flows is in Southern California, where the industry is making large capital investments in the unconventional resources that have already been evaluated, and these newly increased production amounts must cover investments before moving on to new development. Any increase in State production is still apparently tied to the use of new technologies in old wells, in known reservoir locations, and known technologically recoverable potential reserves. Depending on location and resource type this includes but is not limited to; Steam Injection, Full Field Steam Floods, Acidization, Matrix Acidizing, Hydraulic Fracturing, Acid Fracking, Diesel fracking, and slickwater fracking.

Known Well Locations, Drilling Operations, Boundaries of the Franciscan Oil/Gas Play

Shows of oil and gas have been reported from exploratory wells drilled near Petrolia, Honeydew, Briceland, Willits, and Ukiah, California (Weber, 1888a, p. 185; MacGinitie, 1943; California Division of Oil and Gas, unpublished data). The Eel River Gas Play is only lightly explored. The boundaries of the Franciscan Oil Play are poorly defined and arbitrary and are drawn to include the many occurrences of hydrocarbons that have been reported from areas near Petrolia, Honeydew, Garberville, Willits, and Ukiah, California.

The area of the play is about 2,300 sq mi. The Franciscan Oil Play is located in Humboldt and Mendocino Counties in northern California, in a northwest-trending belt about 12–30 mi wide, stretching from near Ukiah, California (about 100 mi north of San Francisco), to Arcata Bay. The principal exploration targets in this play are known and hypothetical accumulations of oil and gas in poorly understood fractured sandstone and shale reservoirs in the Coastal and Central Belts of the Franciscan Complex.

However, the Franciscan play also includes accumulations of hydrocarbons that occur in isolated patches of Neogene sedimentary rocks that rest unconformably on the Franciscan in certain areas south of the Eel River Basin, most notably near Garberville, Willits, and Ukiah, California (e.g., McLaughlin and Nilsen, 1982; Nilsen and Clarke, 1989)

Unpublished well records in the files of the California Division of Oil and Gas indicate that more than a dozen wells were drilled in the Honeydew area between 1866 and 1950. Shows of oil and gas were reported from several, and at least one was completed as a gas well “for domestic use.” At least five wells have been drilled near Briceland, California, but little geological information is available. The most recent well, the Dugan Oil Co. Velma No. 1, was drilled in 1976. This well found shows of light oil from 2,000 ft to total depth of 3,154 ft, and reportedly bottomed in rocks of the Yager terrane.

Several wells have been drilled near Willits, California, with mixed results. The oldest, the Mendocino- Midway Oil Syndicate No. 1, was spudded in 1923; the well apparently penetrated fractured sandstone and shale of the Franciscan Complex, and was abandoned at total depth of 2,174 ft in 1925. Reportedly, this well encountered “a showing of gas (evidently marsh gas)” and “slight traces of oily substance” from 800 ft to the bottom. In 1956, the L.H. Scott Percico No. 1 spudded in the Franciscan, found no shows of oil or gas, and was abandoned in Franciscan rocks at total depth of 4,080 ft. The Jewel City Exploration Hi No. 1 spudded in “Plio-Pleistocene” strata, reached the top of the Franciscan at about 1,000 ft, and bottomed in Franciscan at total depth of 2,000 ft in 1962; shows of gas were reported from 530 ft to total depth.

Also in 1962, the Jewel City Smith No. 1 spudded in Franciscan rocks and reached total depth of 2,931 ft in the Franciscan; noncommercial shows of gas were found in hard shale and sandstone at several intervals from 723 to 2,475 ft. This well reportedly produced a total of 5 MCF of gas, all of which was blown into the air. In 1967, the Willits Oil and Gas Co. No. 1 spudded in the Franciscan and bottomed at total depth of 1,172 ft in hard, gray shale of the Franciscan; no shows of oil or gas were encountered.

Two wells were drilled near Ukiah, California, by W.C. Thompson Gas and Oil Exploration in 1959. Both appear to have spudded in unnamed nonmarine deposits of Pliocene and (or) Pleistocene age, but almost no geological information is available from either well. The Ukiah No. 1, drilled to total depth of 876 ft, reportedly “tested some gas and considerable water” and was later converted to a water well. The Ukiah No. 2, drilled to total depth of 630 ft, reported shows of both oil and gas but was converted to a water well.

Gas wells in the Eel River Basin are at producing from depths of 6,000 to 10,000 feet with plans to drill horizontal laterals!

Source Rocks, Timing And Migration, Conventional and Unconventional Production

Signs of oil and gas are locally abundant in the Franciscan Shale. Minor oil production was obtained from the Petrolia oil field, now abandoned (California Division of Oil and Gas, 1982). Shows of oil and gas have been reported from exploratory wells drilled near Petrolia, Honeydew, Briceland, Willits, and Ukiah, California (Weber, 1888a, p. 185; MacGinitie, 1943; California Division of Oil and Gas, unpublished data). Oil seeps are abundant in the Petrolia and Honeydew areas, commonly in association with shear zones.

In the recent research paper “Drilling California: A Reality Check on the Monterey Shale” December 2013 by J. David Hughes in association with Post Carbon Institute and Physicians Scientists & Engineers for Healthy Energy; Hughes' description of what has been produced and what is left, explains the use and impact of the combined twin technologies of fracking and deviant/slant, underbalanced or horizontal drilling on reservoirs, mature field assets and steam (or) thermally enhanced flows, and is clarifying.

“Terminology - Formation is a formal name for a rock unit that can be recognized over relatively large geographic areas. A formation can be subdivided into members, and included with other formations in a group. The Monterey Formation, for example, is subdivided into members such as the Stevens Sand, McLure Shale, Reef Ridge Shale, Antelope Shale, and so forth. A Formation contains both source rocks, where oil has been generated, and reservoir rocks, where oil that has migrated from the source rocks is trapped by a seal, either diagenetic or structural (fault or fold). In some cases, such as tight oil plays like the Bakken and Eagle Ford, source rocks are also reservoir rocks, as the oil contained within them has migrated little or no distance owing to very limited permeability.

The Oil and Gas Generation Process

1. Sediments with sufficient organic content (total organic carbon) accumulate and over eons of time are buried by sedimentation and tectonic activity.
2. At sufficient depth (approximately 2-4 km) these sediments enter the oil generation window, an interval in the subsurface where temperatures and pressures are high enough for organic matter to undergo thermogenic breakdown (cracking), generating oil over sufficient periods of time. At yet greater depths of burial (3-6 km) and correspondingly higher temperatures, gas is generated.
3. Oil or gas may then be expelled from the source rock and migrate through permeable rocks or fractures until it is trapped by a tight, non-permeable layer of rock (like a shale) and creates a reservoir which may then be tapped by a well as a conventional oil play. If the oil or gas is not trapped, it may migrate to the surface. After burial and hydrocarbon generation, source rocks may also be uplifted by tectonic forces.
4. Unconventional tight oil and tight-gas plays tap hydrocarbons remaining in the source rocks themselves including 'tight-sands', or in immediately adjacent tight rocks, by inducing permeability through the creation of artificial fractures (hydraulic fracturing) or through dissolution of the rock matrix (acidization) through which oil or gas can migrate to the well bore.”

J. David Hughes is a geoscientist who has studied the energy resources of Canada for nearly four decades, including 32 years with the Geological Survey of Canada as a scientist and research manager.

How Does One Find Well Locations, Drilling Operations, by Ownership and by County?

Here is where one can find District 6 maps (which covers coastal northern California to Redding, and to the Nevada Stateline). District 6 (DOGGR) is larger than Province 7 (Industry, USGS), which is 70 miles at it widest near Fort Bragg.

http://www.conservation.ca.gov/dog/maps/Pages/d6_index_map1.aspx

Then go to All Wells Location Database GIS Mapping

<http://www.conservation.ca.gov/dog/maps/Pages/GISMapping2.aspx>

There are 2 choices. GIS data. And xls; the xls is packed with 8000 entries for District 6. These are production and abandoned or capped wells; DOC lists no record of production in Mendocino County for 2012 or 2013.

195,000 wells, are listed by owner and Section coordinates throughout the State of California.

http://www.conservation.ca.gov/dog/maps/Pages/readme_map1.aspx

National Oil & Gas Assessment: Northern Coastal (Province 7) (U.S. Geological Survey Energy Resources Program) Periodic assessment of the oil and natural gas endowment of the United States. For each Province includes an overall geological assessment and individual assessments of each play.

Northern Coastal Province Code: 5007

“Province 7 includes much of northwestern coastal California, from near Crescent City in Del Norte County to near Paicines in San Benito County. The province is bounded on the north by the Oregon border; on the west by the San Andreas Fault and the 3-mi limit offshore; and on the east by the Coast Range Thrust (as far south as Lake Berryessa), the Hayward Fault (as far south as the southern boundary of Alameda County), and the Tesla and Ortigalita faults. The province is about 410 mi long from northwest to southeast, about 70 mi wide at its widest near Fort Bragg, and occupies an area of about 14,300 sq mi. (Read more in DDS-30)”

DDS-30

<http://certmapper.cr.usgs.gov/data/noga95/prov7/text/prov7.pdf>

The Williamson Act, Lands Under Agricultural Preserve Contract

The presence or absence of 'known' producible areal extents of hydrocarbons shifts, bounded by the historical and chronological use of available of technology, production costs to market access ratios (distance mainly), and the economics of various extraction methods to geologic disposition e.g., targeting migrated gas/oil, or the source gas and or oil deposits.

Please consider that the expansion of the use of fracking and acidization, combined with directional drilling technologies used in the Exploration and Extraction or Production of Unconventional Hydrocarbons (Oil or Natural Gas, Methane Hydrates, Natural Gas Liquids), are not compatible with agriculture in our county, under the Williamson Act, or the County Agricultural Preserve Ordinance as incorporated into the County's certified LCP APPENDIX 11 of the Coastal Element LUP.

Land use plans and local ordinances related to the Williamson Act Agricultural Preserve Status

In 1998, Mendocino County amended its Agricultural Preserve ordinance which applies to lands under the Williamson Act contracts, incorporating provisions of AB 2663 and SB 1534. The Agricultural Preserve Ordinance was incorporated into the County's certified LCP as APPENDIX 11 of the Coastal Element LUP. At the time, the amended APO applied to all lands under Preserve status outside the Coastal Zone. The County then amended Appendix 11 of the Coastal Coastal Element LUP, to implement the provisions of AB 2663 and SB 1534 specifically within the Coastal Zone.

Coastal Agriculture was and is recognized by the Coastal Act, and the act contains several policies calling for the preservation of agriculture and agricultural lands. Section 30241 of the Coastal Act (a) through (f), in particular subsection (e) which states: "By assuring ... non-agricultural development do not impair agricultural viability, either through increased assessment costs, or degraded air and water quality."

Mendocino County LCP Amendment No. 1-99, Part A (Major) filed with the Coastal Commission on 03 20 1999 heard on 05 10 2000 in Santa Rosa.

According to well records on file at DOGGR, to date, in California, most producing wells are conventional vertical production wells. There is a recognition within the industry of the economics of multiple wellbores from a single pad with laterals running great distances, hydraulic fracturing, acid fracking, and potential for increased flow rates.

The companies, which make up the bulk of the Oil and Gas Sector Giants and their subsidiaries, whether producing oil and NGLs from the Monterey Shales, or dry-gas from the non-associated fields in the northern part of the State, own producing acreages in the well known shale gas plays around the country. This same experience in the active plays throughout the country fuels investments in California landscapes. Amidst posted company profiles and reorganization filings at the SEC, there is great excitement in updating drilling extraction methods and moving forward, across the landscape expanding production.

These industrial 'experiences' often don't look the same to the longtime residents, farmers, ranchers, rural communities, the Public Health Agencies and doctors, clinics, school nurses, health investigators, moms and dads who have experienced impacts to quality of life, land, air, water, health, social infrastructure.

Mendocino County has a Precautionary Principle, perhaps its application has never been more necessary and urgent. Unconventional Natural Gas Production facilities spatial requirements

and impacts: surface disturbance, fugitive emissions, the Williamson Act in an Agricultural County, air and water quality degradation and possible aquifer contamination, aquifer exemptions, aquifer or surface water withdrawals for production and well maintenance cycles, evaporative ponds or tanks, for wastewater recycling, then trucking solid wastes and semi-solids to a remote disposal well, or the preferred method of drilling and permitted use of onsite UIC disposal wells, the pipelines which will cross denuded and compacted forest soils adding to the increased use of herbicide poison control methods, and lastly, the inherent dangers of forced community pooling and unitization.

The maps are telling – in the one on the left, the existence of OXY ownerships along with potential unconventional plays are denoted in southern Mendocino County, and one bordering the Humboldt/Mendocino County line. Also in southern Lake County bordering with Mendocino County. Exploratory well locations are confidential.

Although overall oil production in California has decreased by more than half since 1986, the number of operating wells has remained roughly constant. More specifically, production per oil well has decreased from an average of 22 barrels per day in 1986 to just over 10 barrels per day in early 2013. Today, approximately 50,000 wells are contributing to current production, but over 238,000 wells have been drilled, as illustrated in Figure 3.

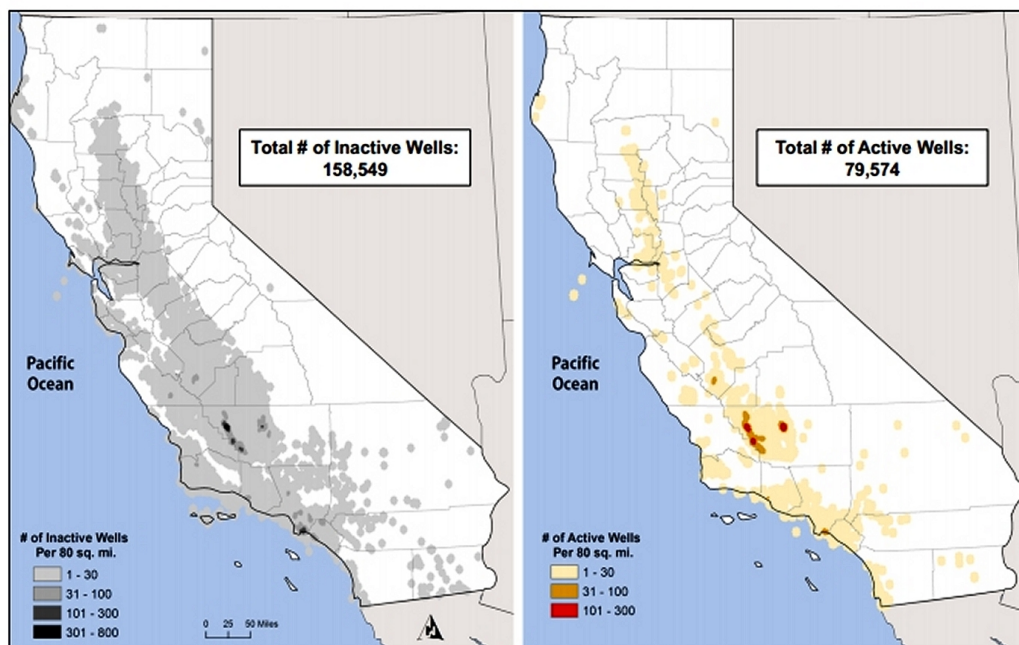


Figure 3. Density of inactive and active oil wells in California drilled between 1977 and 2013.¹¹

Over 238,000 wells have been drilled in California's history. Of the 79,574 wells classified as "Active or Drilling," only about 50,000 are currently producing.

FROM: "Drilling California: A Reality Check on the Monterey Shale"
December 2013 by J. David Hughes

Considerations Regarding Hydraulic Fracking In Santa Cruz County

Kathleen Molloy Previsich, Planning Director County of Santa Cruz Planning Department on 03192013 in a Report Back On Considerations Regarding Hydraulic Fracking In Santa Cruz County to the Board of Supervisors of Santa Cruz County wrote:

“On February 12, 2013 your Board considered a report regarding hydraulic fracturing and, by unanimous vote, adopted a resolution expressing concerns about the proposed State regulations for hydraulic fracturing in California. Your Board also directed...”

Big BIG Thank you goes out in a shout too!

Staff analysis provided the local ordinance assessment and comparison for presentation to the Board, and used herein. Members from the Board and Planning Department of the County of Santa Cruz have been helpful to our commitment and proceedings. We are truly thankful to the Board of Supervisors and the Planning Department of Santa Cruz County and all staff persons for taking the lead laying out a model, and procedural analysis.

Interim Moratorium (45 Day) In Santa Cruz County Passes 09102013 and then it's extended!

“With the advent of fracking, this controversial technique, it’s now become much more likely they would start doing oil and gas development again here,” Santa Cruz County Supervisor John Leopold says. “It’s my feeling the destructive nature of this practice isn’t worth the benefits it might generate.” The supervisors voted 5-0 in October for a 10-month moratorium, to keep the industry from getting ahead of them.

http://www.montereycountyweekly.com/archives/2014/0109/article_15bd13d0-78aa-11e3-bf6a-0019bb30f31a.html?mode=jqm

The County of Mendocino

Great care was taken by members of the Ocean Protection Coalition of Fort Bragg to modify language in the original documents from Mendocino County Chapter 19.04 the Moratorium Ordinance on Offshore/Onshore Development Of Oil; and the Santa Cruz Planning Department analysis to their BoS, along with the subsequent Santa Cruz County Moratorium Ordinance; and finally the 2014 Amended Language to Chapter 19.04 Voter Approval Of General Plan Or Coastal Plan Amendments For Onshore Facilities Supporting Offshore Oil And Gas Exploration And Development.

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Slick Water Fracking Moratorium Is The Only Answer

<http://banslickwaterfracking.blogspot.com/>

Tomas DiFiore

Mendocino County Resident