Ventura County

SLOW DISASTER
CASE STUDY

ENVIRONMENTAL
INJUSTICE

Fall 2021

GROUP NO. 13

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ABOUT

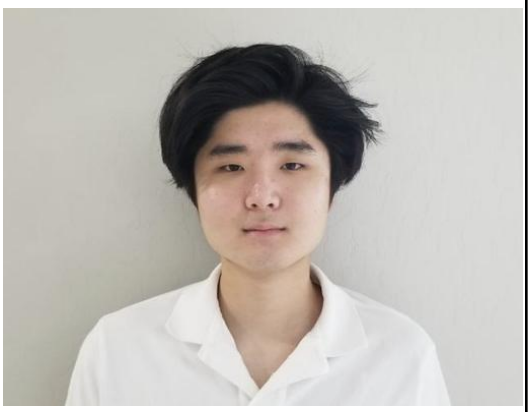
This case study report was developed by students at the University of California Irvine for the undergraduate class, "Environmental Injustice," taught by Kim Fortun and Kaitlyn Rabach for the Department of Anthropology, Fall 2021. The University of California Irvine is on the ancestral homelands of the Tongya and Acjachemen nations.

COVER PHOTO

Ventura County's beaches are littered with trash and pollution to the point where people cannot use them for recreation anymore. There is even pollution that cannot be seen due to runoff and air pollution in the area which creates unseen harm for beachgoers. (Screenshot by Neha Muvvala, November 3, 2021)
https://ventura.surfrider.org/category/activism/page/2/

PERMISSION TO PUBLISH @ https://disaster-sts-network.org Do you consent to having your name listed as an author on the published case study?	
Name	**Publish? (Y or N)**
Ally Avidan	Y
Carmen Broadnax	Y
Aiden Browne	Y
Maximillian Einstein	Y
Vin Kanno	Y
Ilya Kulikov	Y
Matthew Le	Y
Julianne Lim	Y
Anissa Marosy	Y
Neha Muvvala	Y

BIOGRAPHICAL STATEMENT	PHOTO
Ally Avidan is a first year undeclared student at the University of California, Irvine. She wants to learn more about the environmental issues and injustices local communities in California are facing.	
Carmen Broadnax is a first year Environmental Science and Policy major at the University of California Irvine. She hopes to become an environmental lawyer.	

Aiden Browne is a first year Political Science major at the University of California Irvine. His goal is to get a degree in political science and pursue a career in government. He is interested in running for public office one day with an emphasis on environmental justice.	
Max Einstein: Is a second year applied physics major at the University of California Irvine. His hometown is Torrance, CA, and is interested in environmental activism.	
Vin Kanno is a first year biological sciences major at the University of California, Irvine. He is looking to develop a heightened understanding of the environmental injustices that local communities in California are facing.	

Ilya Kulikov is a first year computer science and engineering major with interests in robotics and remote control systems at the University of California, Irvine. He hopes to use the information that is being taught throughout the course to be better informed on where to look for information and how to better react to environmental changes.	
Matthew Le is a first year environmental science and policy major at the University of California, Irvine. He is a native of Sacramento California and is interested in better ways to manage water/clean up waterways.	

Julianne Lim is a first year business administration student at the University of California, Irvine. She hopes to use the knowledge gained in this class in order to advocate for others.	
Anissa Marosy is a first year biological sciences major at the University of California, Irvine. Her goals are to go to UCI Medical School to become a surgeon.	
Neha Muvvala is a first year biomedical engineering: premedical student at the University of California, Irvine. She grew up in Irvine, California. She loves traveling all over the US to different national parts, and hopes to use this class to gain a better understanding of environmental problems in her community. She hopes to become a pediatrician in the near future.	

TABLE OF CONTENTS

INTRODUCTION

This case study report focuses on routine, everyday air and water pollution in Ventura County.

We describe routine pollution as "slow disaster" because the impacts are drawn out and cumulative, causing harm slowly, increasing rates of asthma, cancer and heart disease. In many ways, slow pollution disasters are more difficult to deal with than fast, explosive disasters because people don't pay attention to them or even think they are normal – especially in communities of color. Often, communities have to organize and fight to get their concerns about pollution heard and addressed by government officials. Often, particular people play important leadership roles. Sometimes, these people are residents impacted by a polluting facility. Sometimes, leading figures in fights for environmental justice are professionals – physicians who work in the community or engineers who work inside the polluting facilities. This case study describes many different stakeholders in routine pollution and the actions they have taken -- and not taken -- to improve environmental conditions.

The report addresses a series of ten questions (Fig. 2) that draw out local details in a manner that encourages comparison with other places. The research has been done quickly (within the constraints of a quarter-long undergraduate class) so is limited to and points to the need for further research and community engagement. The goal is to help build both a body of research on environmental injustice and a network of researchers ready to help conceptualize and implement next-generation environmental protections.

Throughout the research, course concepts, such as health disparities, cumulative impacts, social determinants of health, and systemic racism serve as guiding ideas. Health

disparities refers to any difference in an individual's ability to achieve good health between two groups of people signifies that a health disparity exists between the two. Factors that cause these differences may include race/ethnicity, sex, sexual identity, age, disability, socioeconomic status, and geographic location. Cumulative effects are impacts that are caused by a combination of factors from different time periods and different sources. Social determinants of health are environmental factors that affect the health of residents and how they participate in society, including access to education, health care, and exposure to crime or violence. Systemic racism refers to when society defaults to one race, which limits opportunities and allows for structural discrimination against others.

Through prior research of previous case studies on Ventura County, we have found that residents of Ventura county rely heavily on the existing water sources such as rivers. If that water is polluted, they will struggle to find clean sources of water to drink and for agriculture. Along with the risk of drought, "these water sources have become unreliable" (Anonymous 2020), according to a case study on Ventura County in the Disaster STS Network. Ventura County has to find sustainable water sources that can support the community.

Within Ventura County, there are injustices that are prevalent, with the poor living conditions of many Latino people in the community. Pollution negatively affects the health of residents and unborn children are negatively affected by health problems of their parents and grandparents, showing a strong case of intergenerational injustice. Education levels are low, with children being unable to do basic math, putting them at a disadvantage in interpreting data when they are older or understanding the injustices that they face. Unfortunately, Ventura County only has influence in a few local news outlets, including VC Star and local activist groups in the area in regards to slow disasters that occur in the area. There is no large media coverage or even enough talk about the disasters occuring in the area by larger groups although it affects a very large population. Ventura County residents will have a hard time finding the information they need to stay safe in the

environmental conditions they are living in, in addition to people traveling through and into the county.

ENVIRONMENTAL INJUSTICE CASE STUDY FRAMEWORK

1. What is the setting of this case? What are its assets?
2. What environmental health threats (from explosions, everyday pollution, climate change, etc) are there in this setting?
3. What intersecting factors -- social, cultural, political, technological, ecological -- contribute to environmental health vulnerability and injustice in this setting?
4. Who are stakeholders, what are their characteristics, and what are their perceptions of the problems?
5. What have different stakeholder groups done (or not done) in response to the problems in this case?
6. How have environmental problems in this setting been reported by media, environmental groups, companies and government agencies?
7. What local actions would reduce environmental vulnerability and injustice in this setting?
8. What extra-local actions (at state, national or international levels) would reduce environmental vulnerability and injustice in this setting and similar settings?
9. What kinds of data and research would be useful in efforts to characterize and address environmental threats in this setting and similar settings?
10. What intersecting injustices -- data, economic, epistemic, gender, health, infrastructure, intergenerational, media, procedural, racial, reproductive -- contribute to environmental injustice in this setting?

FIGURE 1: This is the analytic framework that guided research for this case study.

FIGURE 2: This is the map of how the Californian counties are divided up. Ventura County is in Southern California, between Los Angeles, Santa Barbara, and Kern Counties.
(Screenshot by Neha Muvvala, October 29, 2021)
https://californiathroughmylens.com/california-counties/

FIGURE 3: Ventura County is on the Chumash and Tataviam Homelands. Native Lands shows us that Ventura County sits on mainly the Chumash homelands. (Screenshots by Neha Muvvala, October 29, 2021) https://native-land.ca/, https://indigenousmexico.org/southwest-us/california/the-native-roots-of-southern-californians/

1. COMMUNITY ASSETS & SETTING

The People, The Farms, the Opportunities

Ally Avidan

Ventura County is the southernmost county along the central California coast comprising the Oxnard-Thousand Oaks-Ventura, California Metropolitan Statistical Area (eReference Desk n.d.). Organized in 1872, the county has one thousand and eight hundred and forty-two square miles with about four hundred and sixty-one people in every square mile. With a total of 850,967 residents with over half being between the ages of 25 and 64, the county is governed through Dillion's rule (County Explorer n.d.). The county's population is currently growing at a slow, but steady rate, rising 3% in the last decade. The population itself is made up of 50.5% females and 49.5% males. When looking at the age distribution in the county, 5.7% of people are under 5 years old, 22.6% are under 18, and 16.2% are 65 and over. Most of the county is primarily healthy and has health insurance, with only 6.2% having a disability and 10.4% not having health insurance. Furthermore, most of the county has an education, with 85% of the population having a high school degree and 33.8% having a bachelor's degree or higher (Census Bureau 2021).

The different sections of Ventura County have vastly different HPI (Healthy Place Index) scores. While many of the cities within Ventura County have high HPI scores representing good health, strong economies, excellent access to education, and good public

transportation, there are some cities (many along certain portions of the coast) that have very low HPI scores (Public Health Alliance of Southern California 2021). These cities tend to be primarily home to minority residents, often Latinos. In Ventura County, 44.7% of the population is white, 43.2% of the population is Latino, 2.4% is black, 1.9% are Native Americans, and 3.5% have origins in at least two races, as seen in figure 7. Immigrants, mainly from Mexico, make up 21.8% of the population (Census Bureau 2021). Although the median household income in Ventura County is $88,131, 8.2% of the population lives in poverty. The median household price is $588,400, which can be difficult for some of the residents to afford.

Ventura County has several key industries that are important to its economy. These six key main industries include construction, manufacturing, technical services, leisure and hospitality, health services, and agriculture (Business Forward Ventura County n.d.). Ventura county's farms account for four percent of state agricultural sales, with 99% of the sales coming from crops, as seen in figure 6. The remaining 1% of sales is from poultry, products, and livestock. In total, Ventura County has 2,135 farms covering 260,102 acres (United States Department of Agriculture 2017). In Ventura County, the land is used as cropland, pastureland, and woodland among other uses. The land use practices, in regards to tilling, vary for different levels of productivity and cost. Agriculture provides a huge boost to the county's economy with a net cash value of $418,909,000. In total, the market value of products sold is $1,633,293,000 with farm related income adding $61,407,000 United States Department of Agriculture 2017). The farms are mainly family farms with over half hiring farm labor, as seen in figure 4. Most of Ventura County has access to technology, with 92.7% of the population owning a computer and 88.2% having access to the internet (Census Bureau 2021). However, on the farms, those numbers are significantly less. Only 81% of farms have internet access (Census Bureau 2021). Many of the crops grown on the farms in Ventura County are not consumed in the county; however, "money from around the state will be pumped into the local economy" (Ventura County Star 2021). The residents of the county support the agricultural area and the

farmworkers, providing “food assistance” to the workers that were hit “hard by Covid” (Cota-Robles 2021).

Ventura County has several community organizations and businesses that are working to help protect the people and the environment. One of its main environmental organizations is the Ventura Citizens for Hillside Preservation, the VCHP, that is working to preserve the environment, the natural resources, and the county’s quality of life. As seen in figure 5, protecting places like the harbor is important to the county’s well being. The environmental organization strives to achieve its mission through education, outreach measures, participation in public planning measures, and through supporting candidates and organizations that are working to help protect the county and the environment (Ventura Citizens for Hillside Preservation n.d.). As seen in figure 8, Ventura county has a higher percentage of democrats, which could influence a higher amount of environmental policies to be passed. Since California has voting laws that strengthen its democratic capacity, as seen in figure 9, this makes it even easier for environmental policies to pass. Ventura County also has its own air pollution control district that monitors agricultural burning, air quality, the air quality forecast, and the type and level of air pollutants; the monitoring division has stations in Thousand Oaks, El Rio, Simi Valley, Piru, and Ojai. The air pollution district provides assistance to county residents that want to hear the air quality forecast or simply have questions (Ventura County Air Pollution Control District 2021). Ventura County also has a few local news organizations that report on the environment and the county; these include KVTA, Student Voice, and VC Life and Style (ABYZ News Links 2021). Besides news organizations, Ventura County also has legal organizations to help its residents. The California Rural Legal Assistance or CRLA “provides legal assistance to low income persons in education, employment & labor, rural health, and housing/landlord-tenant issues including eviction and foreclosure defense” working to protect the exploited communities; the CRLA also does community education and outreach programs (California Rural Legal Assistance 2021). Additionally, the Ventura County Board of Supervisors is also working to help the county. The board

created the Farmworker Household Assistance program, which gives a thousand dollars in grant money to farmworker families with low incomes. Many farmworkers families have undocumented members, so they do not recieve assistance from federal programs, making the grant money increasingly helpful and needed (Rode 2020).

Ventura County also has great support and opportunities through their services. The parks provide places for residents to be in nature while providing income for the county. These parks include Oak Park in Simi Valley, Kenney Grove Park in Fillmore, and Foster Day use Park in Ventura (County of Ventura Parks Department n.d.). In the Ventura county Public Library System, students are able to go to homework centers for free homework help, free computer and printing access, and free research guidance (County of Ventura n.d.). In schools, Ventura County has created a green schools program that provides all local schools with free educational programs as well as recycling bins, signage, free compost, and rain barrels (County of Ventura 2021). For residents that do not have healthcare, the county has several different programs to assist and help. The California Children Services Program offers health care and services for specific health conditions while the ACE programs for kids offers some medical services at low costs. Furthermore, there is also the Cancer Detection Program that helps women get mammograms (Ventura County Health Care Agency n.d.).

FIGURE 4: This is a photograph of the strawberry fields in Oxnard, a city in Ventura

County. The city produces large amounts of strawberries, making strawberries vital to the city and Ventura County's economy. Many of the workers in these fields are Latinos or immigrants from Mexico.
(Screenshot by Ally Avidan, October 29, 2021)
https://commons.wikimedia.org/w/index.php?search=oxnard+strawberry&title=Special:MediaSearch&go=Go&type=image

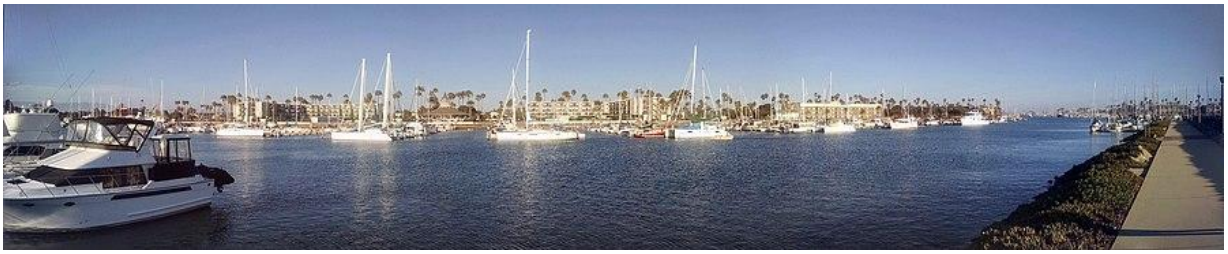


FIGURE 5: This is a picture of the harbor in Oxnard. Many businesses rely on the harbor to bring in business. With pollution and oil spills threatening the harbor, the businesses may suffer.
(Screenshot by Ally Avidan, November 2, 2021)
https://commons.wikimedia.org/w/index.php?search=oxnard+harbor&title=Special:MediaSearch&go=Go&type=image

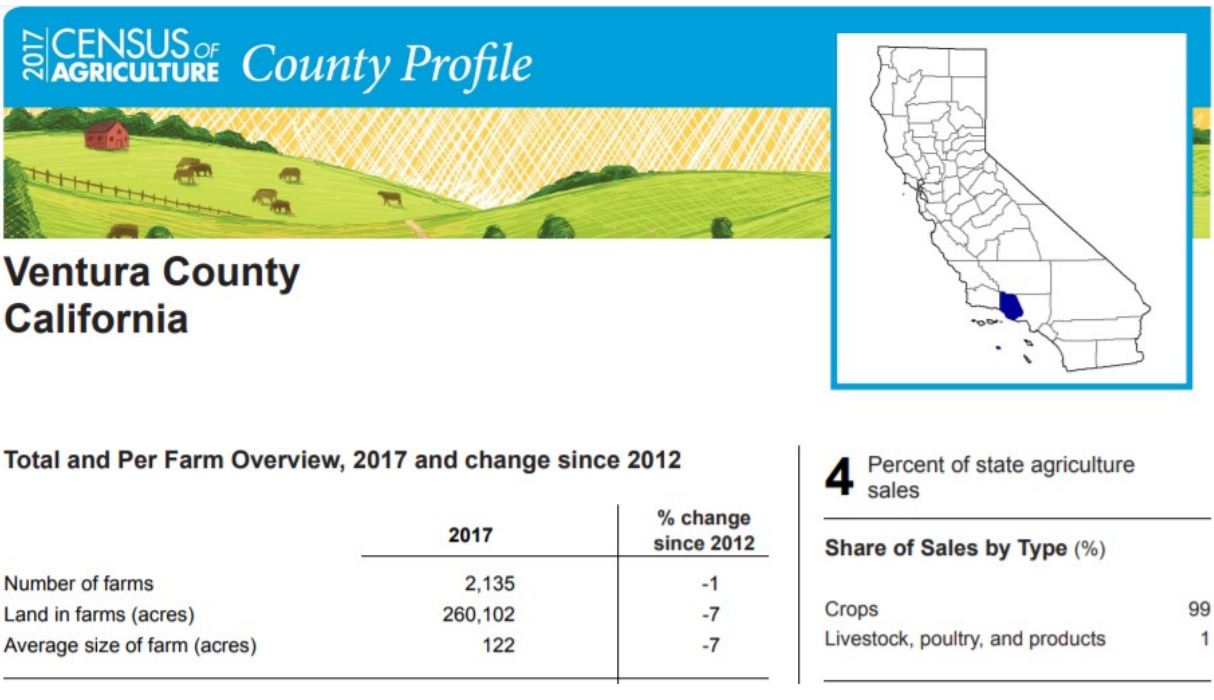


FIGURE 6: This figure highlights the importance of agriculture in Ventura County showing that the agriculture produced in the county is four percent of state sales. 99% of the sales are shown to be crops.
(Screenshot by Ally Avidan, October 29, 2021)
https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/California/cp06111.pdf

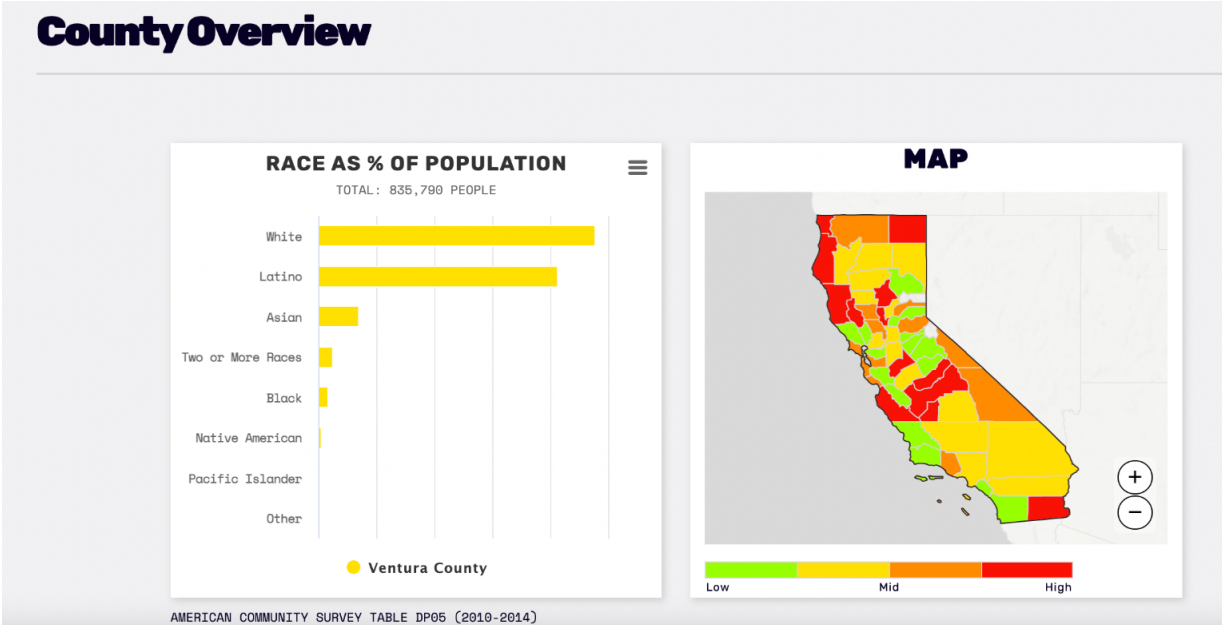


FIGURE 7: According to Race Counts, Ventura County is mostly White or Latino. There is high performance yet high disparity, which means there are varying economic levels in Ventura County.
(Screenshot by Julianne Lim, October 29, 2021)
https://www.racecounts.org/county/ventura/

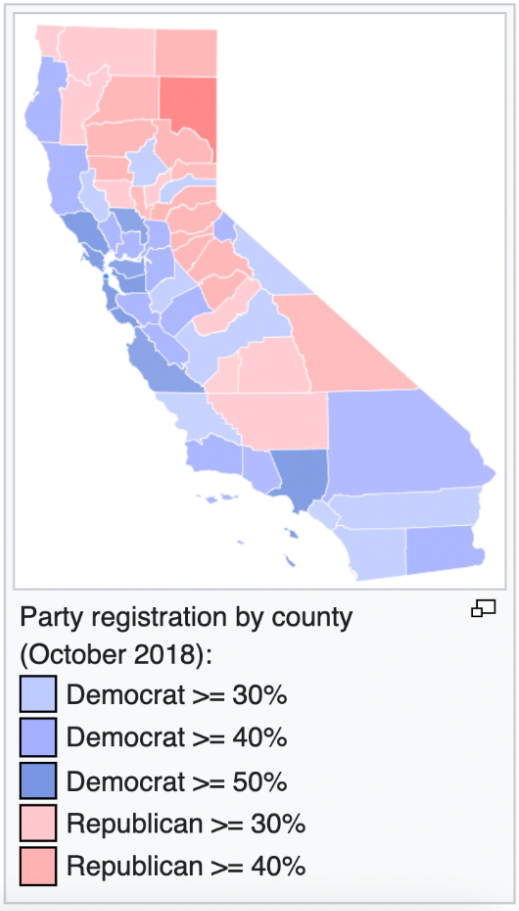


FIGURE 8: This Wikipedia map from 2018 shows that Ventura County leans slightly Democrat. This means that there is a higher possibility of policies that could prevent environmental hazards or slow disasters.
(Screenshot by Julianne Lim, October 29, 2021)
https://en.wikipedia.org/wiki/California_locations_by_voter_registration

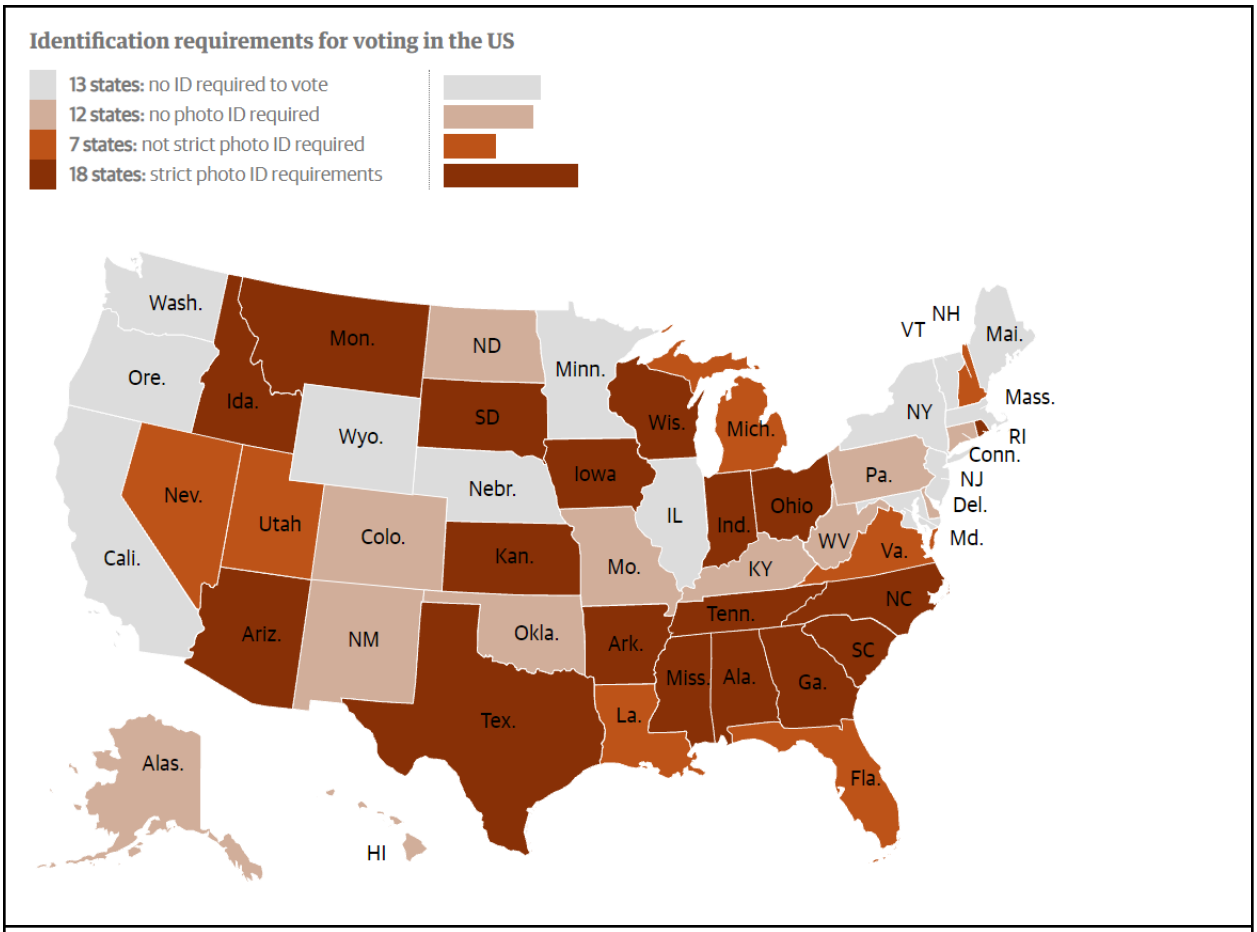


FIGURE 9: The state of California has laws that make it easier to vote than in many other US states. This strengthens democratic capacity across the state of California. However, there were some reports of equipment failure during the election process of 2021.
(Screenshot by Ilya Kulikov, October 30, 2021)
https://www.theguardian.com/us-news/ng-interactive/2019/nov/07/which-us-states-hardest-vote-supression-election

2. SLOW DISASTER & OTHER ENVIRONMENTAL THREATS

Threats and Consequences

Ilya Kulikov

According to figure 14, concentrations of particles like dust, dirt, and smoke in Ventura County are lower than national standards (9.6 points compared to 12). However, these statistics do not fit in with a wide variety of contributors to the air pollution in the region. Mobile sources are the most significant contributor to releasing ROG, sulfur oxides (SOX), carbon monoxide (CO), and NOX into the atmosphere (Planning Commission of Ventura County). Area-wide sources, like household and commercial products, also account for a large source of the county's air pollutants. Ozone is the county's primary air pollutant that is hazardous to health. Even though ozone levels have dropped significantly in the past 20 years, concentrations in Ventura County do not meet national standards: 14 days of exceeded levels against 3 days annually. People exposed to excess ground-level ozone can experience reduced lung function and increased respiratory problems like asthma attacks, causing increased visits to emergency rooms and even premature death (Carreno 2020). One of the pollutants is Halaco Engineering company, a metal smelting company in Oxnard. The plants' fumes affected nearby counties, specifically Ventura county. The

Ventura County Air pollution Control District (APCD) health assessment found that the emissions from Halaco could cause cancer and chronic health risks like reproductive toxicity.

Ventura County supports a large amount of oil drilling as it is located on the coast, which results in frequent oil spills that pollute the area and affect the water and the land. For instance, only one of the leading oil companies, Crimson Pipeline LLC, had a pipeline leak of 700 barrels (29,400 gallons), which is a company responsible for ten oil spills from 2006 to 2016, amounting to 7,453 barrels (313,000 gallons) total (Schleeter 2016). There are about 2lbs of reactive chemical compounds coming out of each oil well every day. These leaks on a pair with chemicals reduce the biological diversity of marine species, especially some crucial kinds responsible for water purification, which causes reproductive damage for wildlife in affected areas and contributes to increases in algae growth which disrupts the entire ecosystem.

Ventura County has one of the highest pesticide usages in California - the 10th highest in the state at 6,398,833 pounds (Miller 2018). The immediate health effects of pesticide exposure can include headaches, nausea, vomiting, abdominal pain, diarrhea, skin irritation, eye irritation, dizziness, muscle weakness, difficulty breathing, respiratory irritation, disorientation, blurry vision, convulsions, coma, respiratory failure, and death. Out of these large numbers of pesticide usage, the most used pesticides are very harmful carcinogens: "Two of the top three most heavily used pesticides in 2016 in Ventura County were World War I "vomiting gas" [...] both toxic fumigants" (Miller 2018). Agricultural workers use "chlorpyrifos" to maintain over 60 crops, such as oranges, almonds, and grapes. Chlorpyrifos is a hazardous pesticide that many people use as a part of their farming, even though there are many side effects for people who work with it and ingest it in their foods. The pollution will not hit all at once, but the effects become more prevalent by increasing the amount. For example, Pesticide exposure during pregnancy is harmful to a child and can cause severe diseases: "exposure to chlorpyrifos during

pregnancy is linked to premature childbirth, developmental disabilities, and reduced brain and lung function among children" (Morales 2019).

Ventura County is a coastal county. Just like any other coastal county, there is a sizable beach-going population. However, the county has not done anything to measure the microbial levels on the beach. Nothing has been done to measure the safety of the beaches. Pollution from runoff or polluted rain can cause harmful microbes to form, affecting the people who go into the water at the beach. The harmful bacteria might not affect the human body immediately, but they will eventually take a toll on the body.

In some cases, wastewater pollution can cause "reproductive issues, rashes, stomach illness, even cancer, and thyroid issues" (Culligan 2020). Nevertheless, such consequences do not stop the manufacturing company Arcturus Manufacturing Corporation which dumps large quantities of polluted water into the environment." The complaint alleged that the manufacturing company was responsible for millions of gallons of runoff made up of metal components and by-products from aerospace, chemical processing, and oil and gas industries" (Solis 2018).

EJSCREEN Report (Version 2020)
County: Ventura
CALIFORNIA, EPA Region 9
Approximate Population: 848,112
Input Area (sq. miles): 2208.23
(The study area contains 2 blockgroup(s) with zero population.)

Selected Variables	Percentile in State	Percentile in EPA Region	Percentile in USA
EJ Indexes			
EJ Index for Particulate Matter (PM 2.5)	45	49	71
EJ Index for Ozone	44	47	69
EJ Index for NATA* Diesel PM	51	54	73
EJ Index for NATA* Air Toxics Cancer Risk	43	47	68
EJ Index for NATA* Respiratory Hazard Index	50	54	74
EJ Index for Traffic Proximity and Volume	61	67	86
EJ Index for Lead Paint Indicator	60	65	78
EJ Index for Superfund Proximity	72	76	87
EJ Index for RMP Proximity	84	86	93
EJ Index for Hazardous Waste Proximity	53	59	83
EJ Index for Wastewater Discharge Indicator	2	2	2

EJ Index for the Selected Area Compared to All People's Blockgroups in the State/Region/US

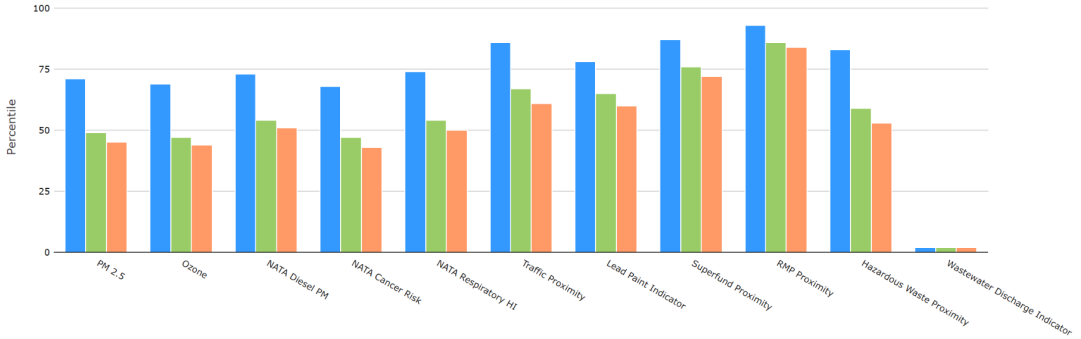


FIGURE 10: This compilation of environmental indicators (provided by the US EPA's EJScreen tool) shows that Ventura County is in the 93rd percentile for RMP proximity and in the 87th percentile for superfund proximity. It is also in the 86th percentile for traffic proximity and volume.
(Screenshot by Ilya Kulikov, October 27, 2021)
https://ejscreen.epa.gov/mapper/ejscreen_SOE.aspx

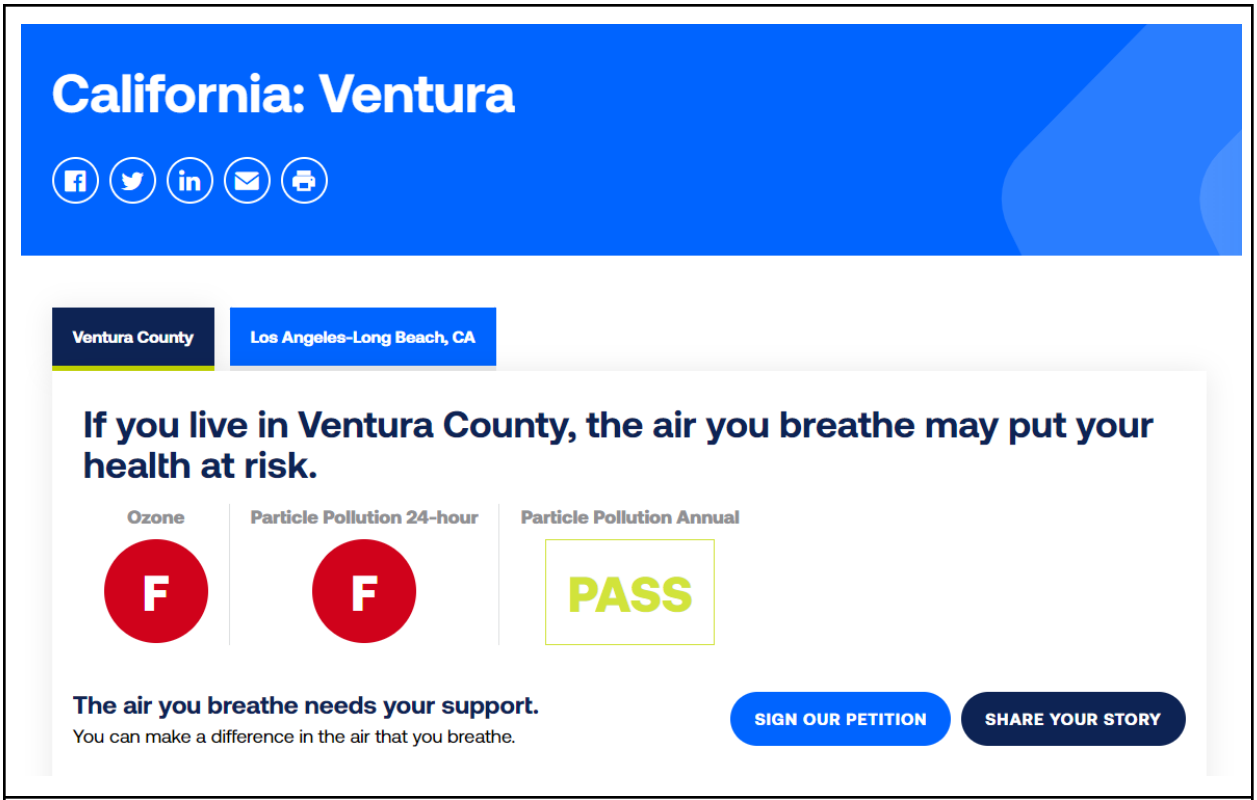


FIGURE 11: This image shows the report card for the air quality in Ventura County. It shows the ozone, particle pollution 24-hour, and annual particle pollution. (Screenshot by Aiden Browne, October 27, 2021)
[Ventura | American Lung Association]

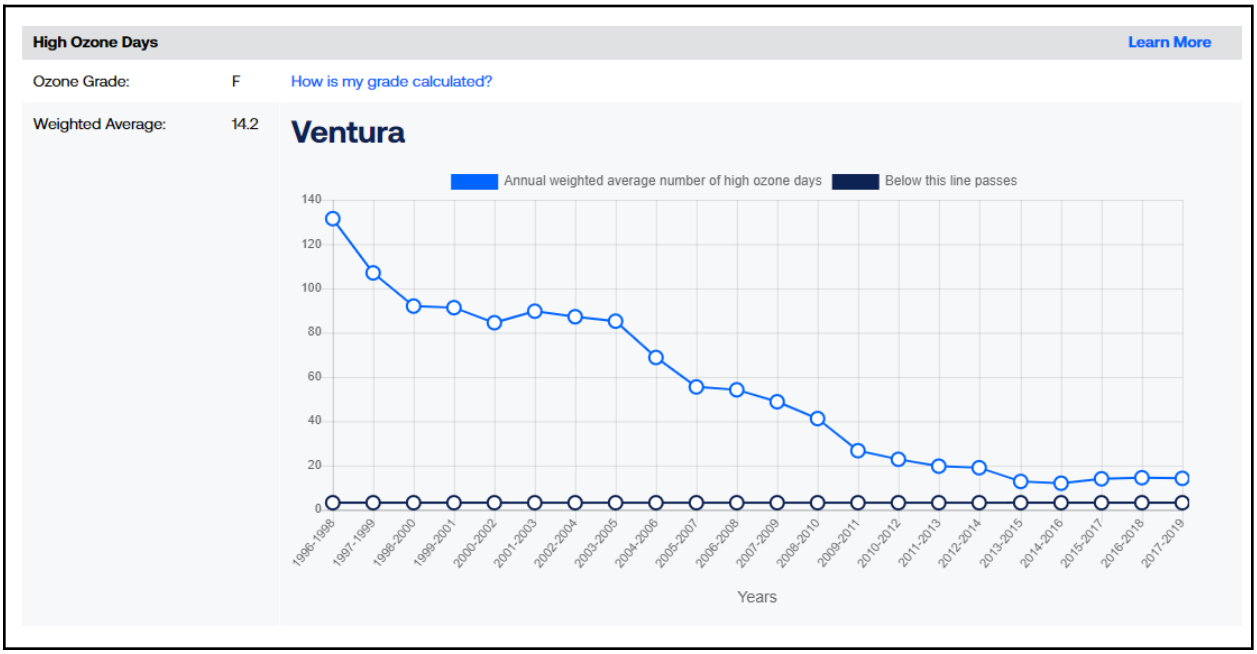


FIGURE 12: This image shows the annual weighted average of the high ozone days in Ventura County. The county got an overall grade of F in this category.
(Screenshot by Aiden Browne, October 27, 2021)
[Ventura | American Lung Association]

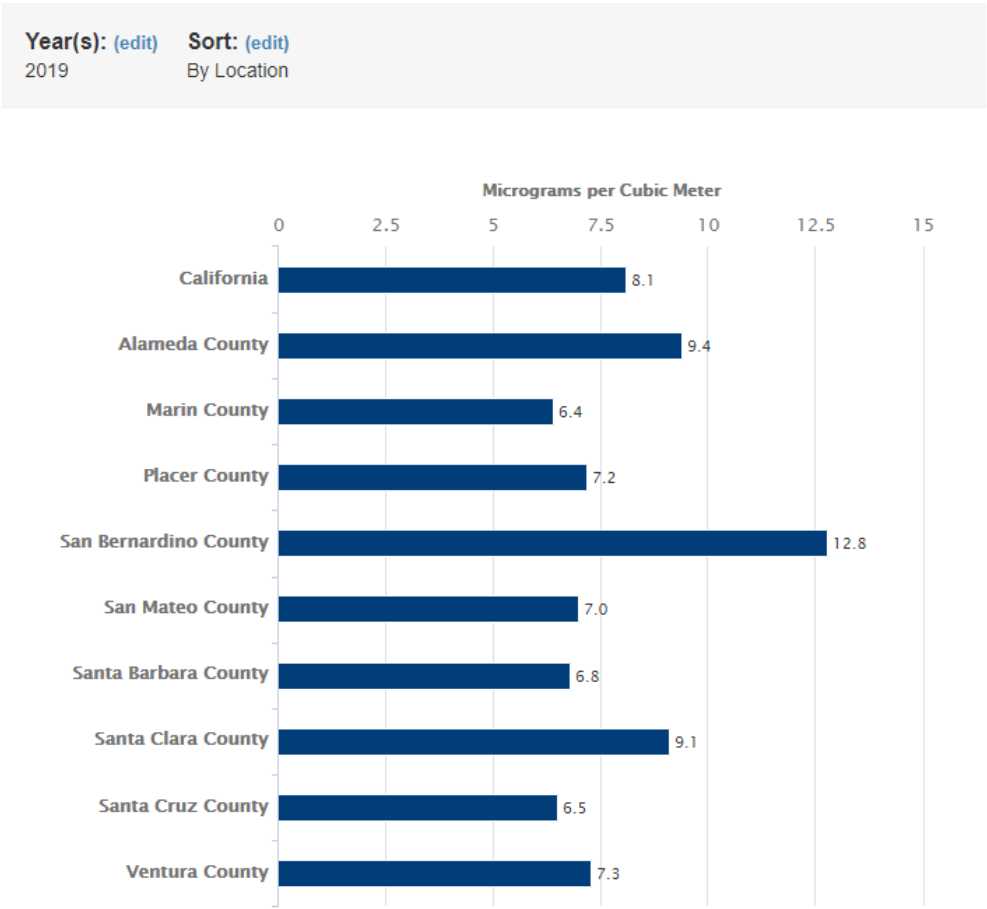


FIGURE 13: Annual average concentration of fine particulate matter in the air in Ventura County is lower than average across California. However, some counties hold lower concentrations than Ventura.
(Screenshot by Ilya Kulikov, October 30, 2021)
https://www.kidsdata.org/topic/80/air-quality/summary.

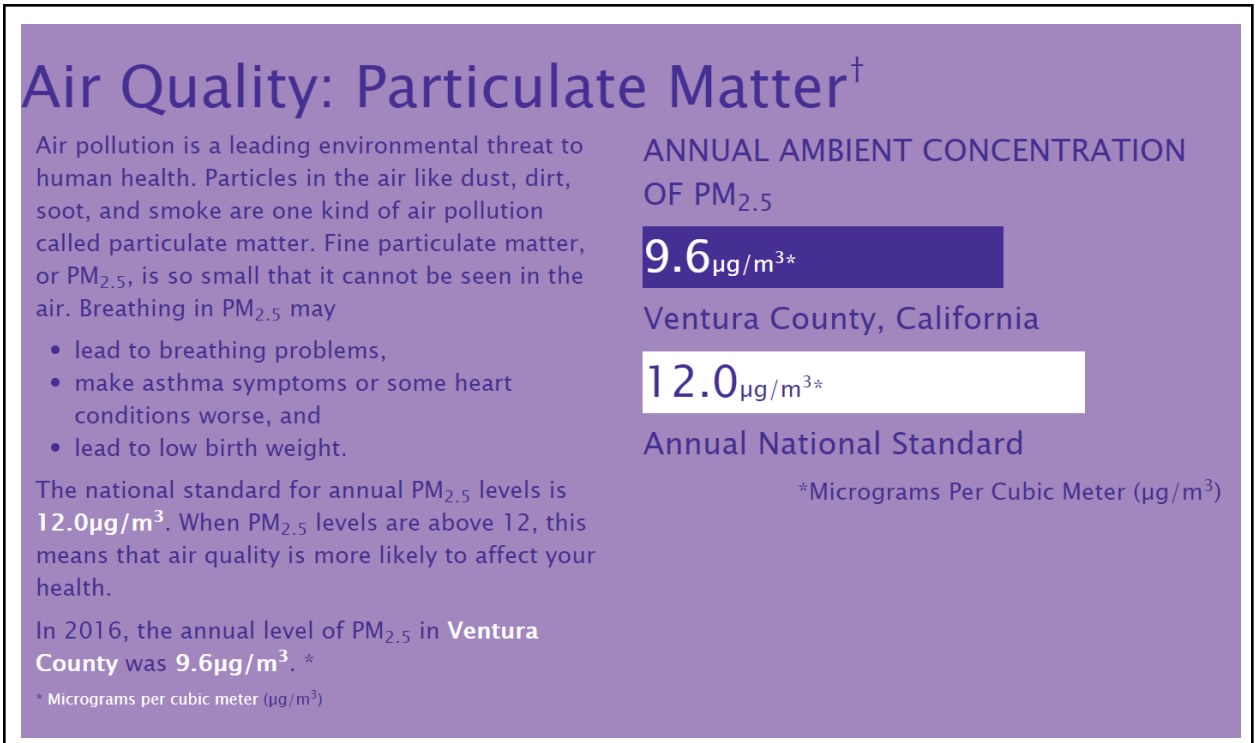


FIGURE 14: This figure shows annual ambient concentration of PM 2.5 in Ventura County to be below the US national standard. This doesn't mean that the air in Ventura county is safe because PM 2.5 is only one of many air pollutants.
(Screenshot by Ilya Kulikov, October 30, 2021)
National Environmental Public Health Tracking Network - CDC - Info By Location External

FIGURE 15: This figure displays the proximity to Highways in Ventura County. The Ventura Freeway is a freeway in southern California, United States, running from the Santa Barbara/Ventura county line to Pasadena in Los Angeles County. (Screenshot by Carmen Broadnax, November 1, 2021)
https://en.wikipedia.org/wiki/Ventura_Freeway

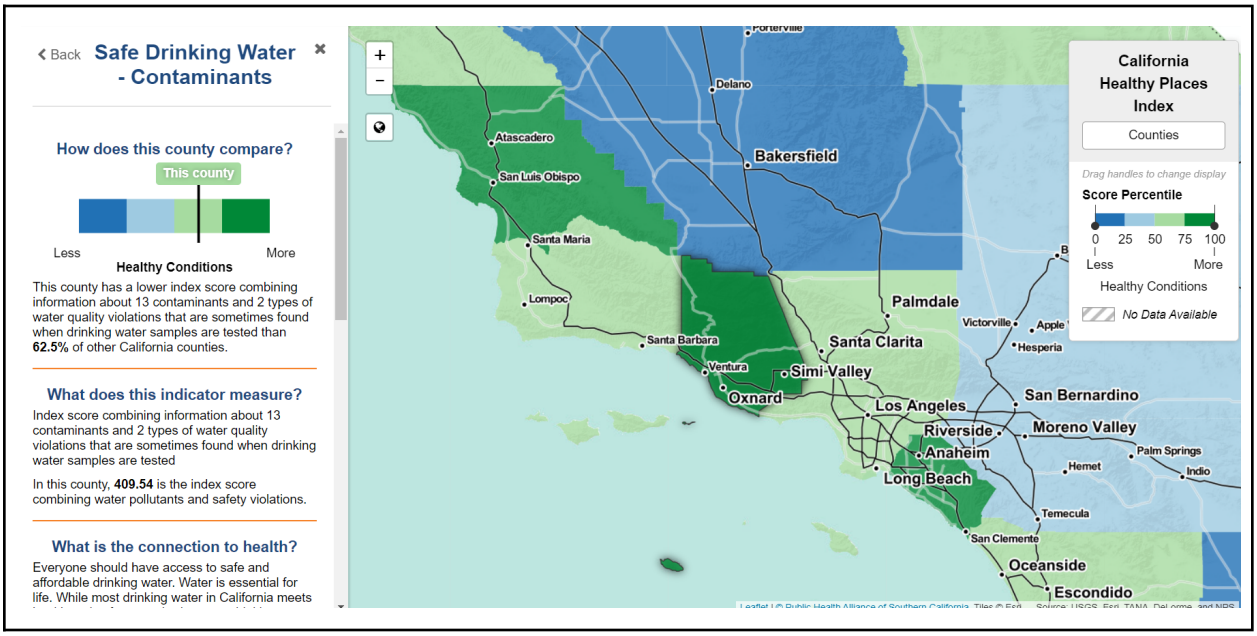


FIGURE 16: This county has a lower index score combining information about 13 contaminants and 2 types of water quality violations that are sometimes found when drinking water samples are tested than 62.5% of other California counties. In this county, 409.54 is the index score combining water pollutants and safety violations. (Screenshot by Carmen Broadnax, November 1, 2021)
https://map.healthyplacesindex.org/

3. COMPOUND VULNERABILITIES

The Contributing Factors

Vin Kanno

There are numerous factors that contribute to the environmental health vulnerability and injustice in Ventura County. However, the main driving forces are the social, cultural, political, and ecological factors. For the social factor that causes environmental injustice and environmental health vulnerability in Ventura County, the current trends indicate that people of low income are disproportionately affected due to slow disasters such as pesticide exposure over time. The Ventura County Coastal Resilience Organization indicates that "there is a marked disparity with respect to income, with lower-income populations being disproportionately impacted" (The Nature Conservancy 2021). This is significant due to the fact that corporations will take advantage of these lower income communities by building their structures that emit toxic gasses into the air nearby these communities, since they cannot do much to relocate or fight against them. For the cultural factor that contributes to the environmental injustice and health vulnerability in the region, the Latino community in Ventura County is the most affected. According to Race Counts, it is stated that "Latinos have the highest hazard score when it comes to how many of their population is within 1,000-3,000 feet of sensitive land uses" (Race Counts 2021). This data indicates that corporations know there are some language barriers between the American and Latino population, so they take advantage of that fact in order

to build their pollution-emitting buildings near their population. A political aspect that contributes to environmental injustice in Ventura County is that "the government has more control over the spraying of pesticides in an area more than the people in the area that are actually negatively impacted" (Hersko 2019). This is significant due to the fact that the people of Ventura County do not have that much of a say when it comes to the things that they are getting exposed to. The government is essentially in control of their health, which is immoral and corrupt. One ecological factor that contributes to the environmental health vulnerability in Ventura County is the fact that a large portion of the county has automobile access. Due to a large portion of the county having automobile access, it correlates with the fact that the air pollution from car emissions is a big contributor to the polluted air in Ventura County. Another ecological factor that contributes to the environmental health vulnerability and injustice in Ventura County is that "the Department of Pesticide Regulation allowed re-licensing of methyl bromide, which is known to be connected to lung and kidney damage, along with neurological effect" (Buford 2015). Since agriculture is such a precious industry in Ventura County, farming and pesticides are seen as necessary to keep the economy rolling. If the Department of Pesticide Regulation allows these pesticides to be used for much longer, then the consequences that they can have on the population of Ventura County will be significant in the years to come.

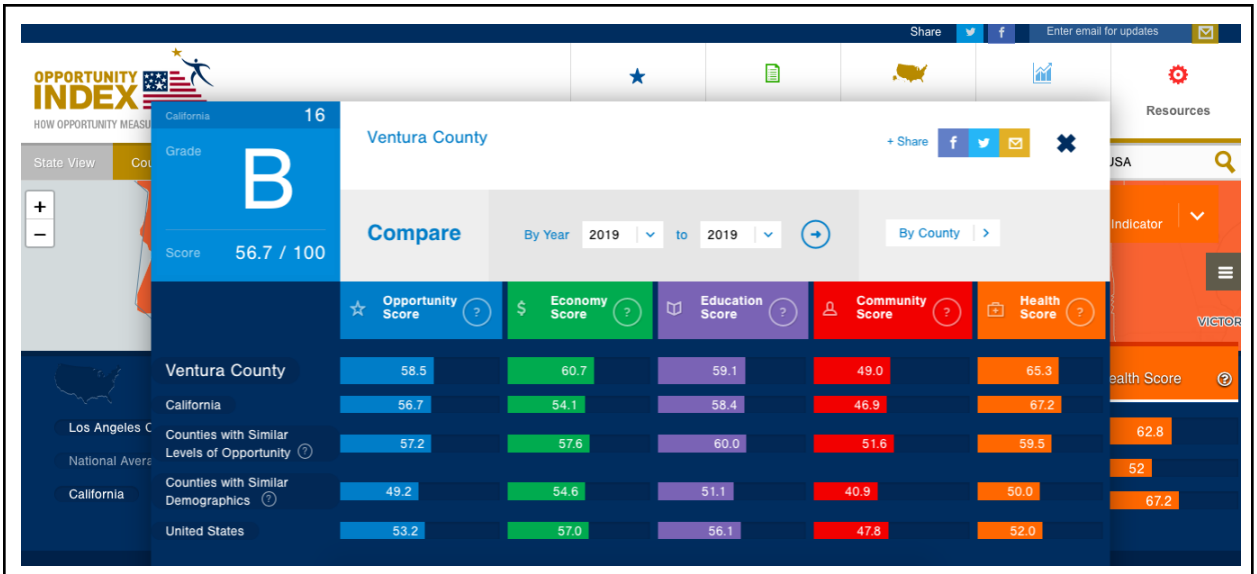
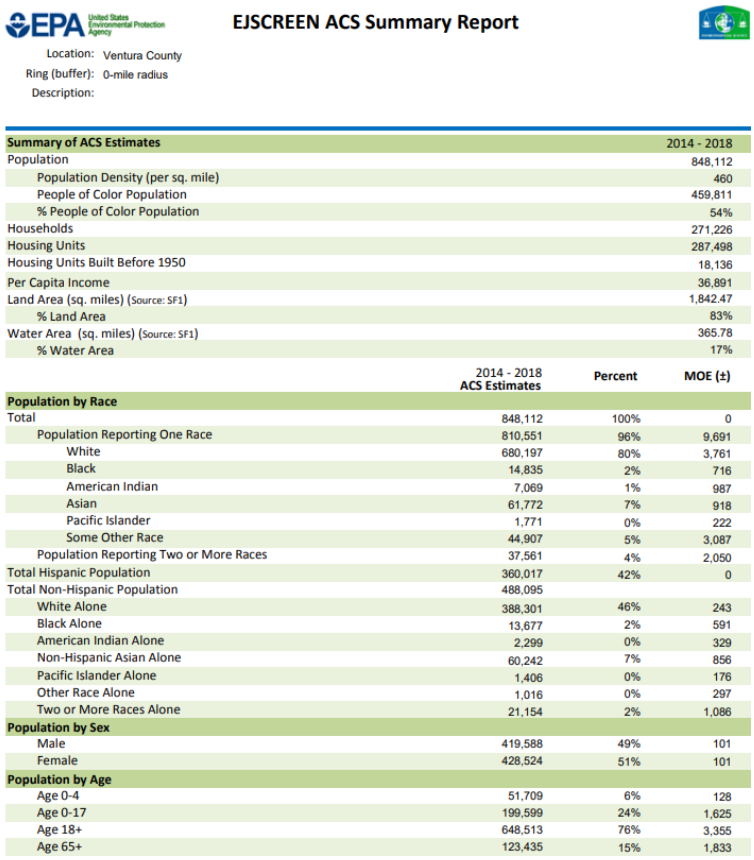


FIGURE 17: Ventura County has a 56.7 opportunity index score. The overall grade is B, and that can be explained by multiple factors. The scores for almost all of the factors are above 50. The only exception is the community score, where the scores are just shy of 50 and range in the mid to high 40s. This can indicate that the community in Ventura County is on the weaker side, so not a lot of the community is banding together in order to fight back against corrupt corporations that pollute the air, for example. However, the education score is high, so that means that people who want to do something about the environmental injustice in the area can learn more about it and develop new ways to counteract it.
(Screenshot by Vin Kanno, October 29, 2021)
https://opportunityindex.org



EJSCREEN ACS Summary Report

Location: Ventura County
Ring (buffer): 0-mile radius
Description:

Summary of ACS Estimates	2014 - 2018
Population	848,112
Population Density (per sq. mile)	460
People of Color Population	459,811
% People of Color Population	54%
Households	271,226
Housing Units	287,498
Housing Units Built Before 1950	18,136
Per Capita Income	36,891
Land Area (sq. miles) (Source: SF1)	1,842.47
% Land Area	83%
Water Area (sq. miles) (Source: SF1)	365.78
% Water Area	17%

	2014 - 2018 ACS Estimates	Percent	MOE (±)
Population by Race			
Total	848,112	100%	0
Population Reporting One Race	810,551	96%	9,691
White	680,197	80%	3,761
Black	14,835	2%	716
American Indian	7,069	1%	987
Asian	61,772	7%	918
Pacific Islander	1,771	0%	222
Some Other Race	44,907	5%	3,087
Population Reporting Two or More Races	37,561	4%	2,050
Total Hispanic Population	360,017	42%	0
Total Non-Hispanic Population	488,095		
White Alone	388,301	46%	243
Black Alone	13,677	2%	591
American Indian Alone	2,299	0%	329
Non-Hispanic Asian Alone	60,242	7%	856
Pacific Islander Alone	1,406	0%	176
Other Race Alone	1,016	0%	297
Two or More Races Alone	21,154	2%	1,086
Population by Sex			
Male	419,588	49%	101
Female	428,524	51%	101
Population by Age			
Age 0-4	51,709	6%	128
Age 0-17	199,599	24%	1,625
Age 18+	648,513	76%	3,355
Age 65+	123,435	15%	1,833

FIGURE 18: These statistics indicate the population of Ventura County, but it also includes factors such as race, sex, and age. It is evident that the most predominant races in Ventura County are white and Hispanic, with white having about 680k people and Hispanic people having a population of around 360k. This data is important, as it indicates that there is a very large Hispanic population in Ventura County. Despite this being the case, the Hispanic population is the group that is getting the most affected by slow pollution in the area due to corporations specifically targeting their areas. (Screenshot by Vin Kanno, November 3, 2021)
https://ejscreen.epa.gov/mapper/demogreportpdf.aspx?report=acs2017

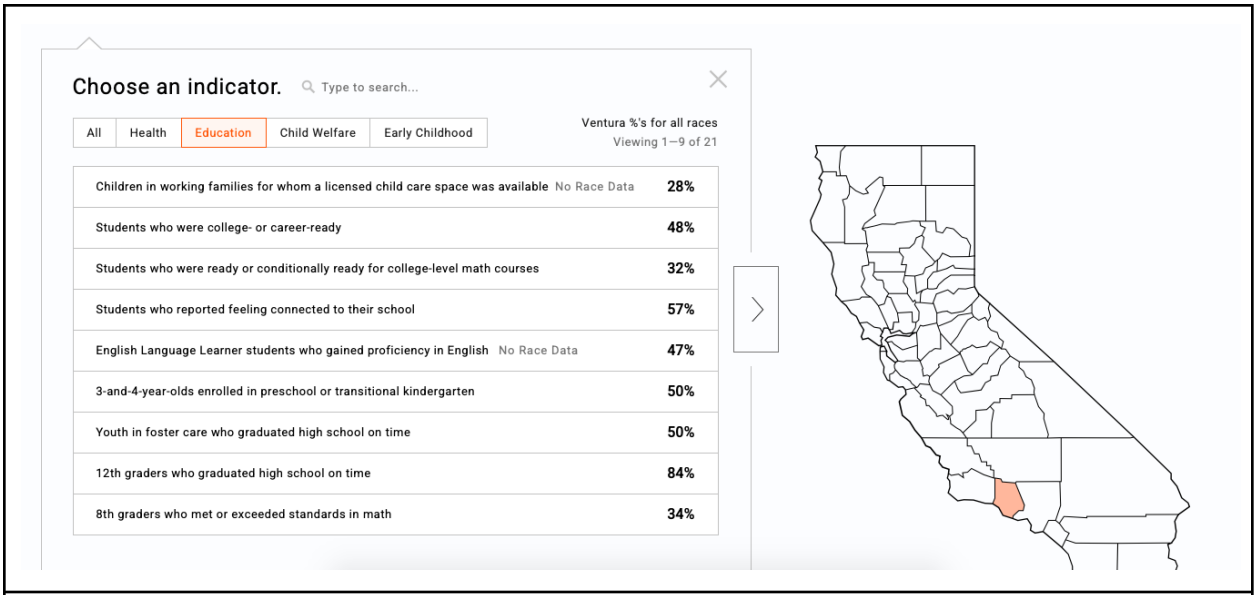


FIGURE 19: These percentages indicate the educational indicators in Ventura County, with 84% of 12th graders graduating on time and 47% English language learner students gaining proficiency in English being significant. This indicates that there could be definite language barriers due to the fact that not every single English learning student will become proficient in English, meaning that they won't be able to comprehend some of the environmental issues and injustices that they are actually experiencing.
(Screenshot by Vin Kanno, October 29, 2021)
https://scorecard.childrennow.org/?cty=ventura&yr=3

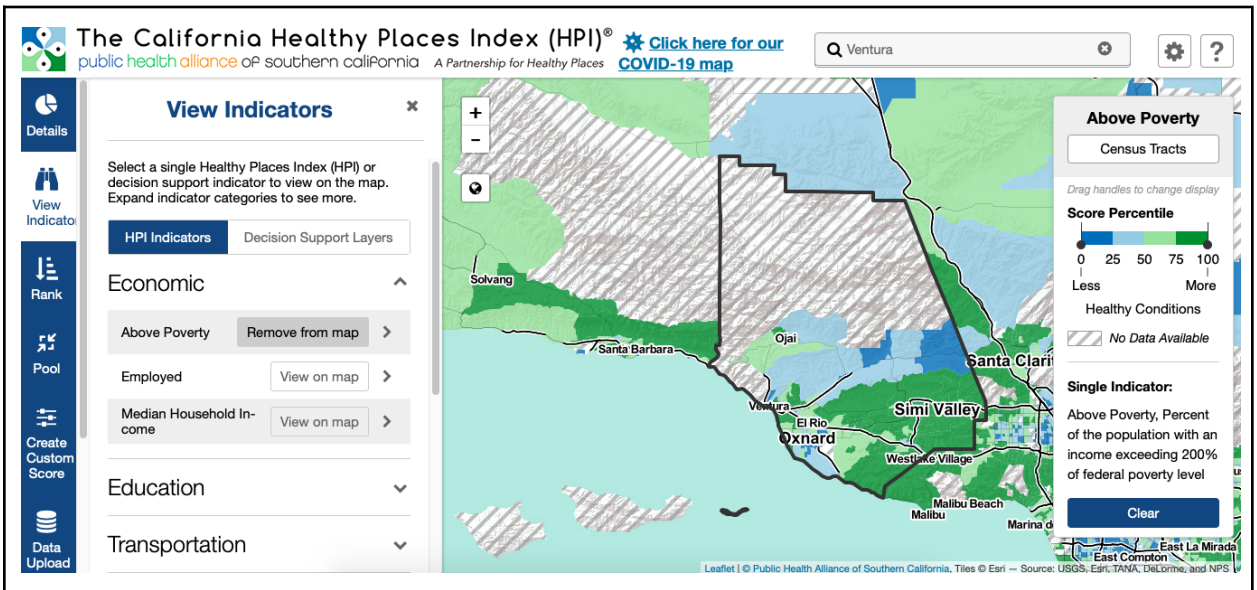


FIGURE 20: These percentages indicate the educational indicators in Ventura County, with 84% of 12th graders graduating on time and 47% English language learner

students gaining proficiency in English being significant. This indicates that there could be definite language barriers due to the fact that not every single English learning student will become proficient in English, meaning that they won't be able to comprehend some of the environmental issues and injustices that they are actually experiencing.
(Screenshot by Vin Kanno, October 29, 2021)
https://map.healthyplacesindex.org

4. STAKEHOLDER ANALYSIS

Governance and Respondence

Julianne Lim

In Ventura County, there are many groups of people involved or affected by the presence of slow disasters. A slow disaster that is especially prevalent in Ventura County is pollution, whether it is airborne or in the water that residents use every day. Many stakeholders are involved, including the Environmental Protection Agency (EPA), the California Department of Pesticide Regulation, agricultural workers of Ventura County, Arcturus Manufacturing Corporation, and Wishtoyo Foundation's Ventura Coastkeeper.

The EPA is all-encompassing, having to accommodate all parts of the United States, which means it is difficult to focus on specific locations and their environmental issues. In order to keep their reputation and credibility as a government agency, they must stay neutral and try to appease all parties. Change is slow, which led environmentalists in Ventura County to sue the EPA for not taking action to reduce smog pollution in the U.S. Court of Appeals for the 9th Circuit. Pollution can lead to "reduced lung function and increased respiratory problems like asthma attacks" (Center for Biological Diversity 2020), and groups were furious that the EPA has not made any measures to protect the health of Ventura County residents.

Under the California EPA, the California Department of Pesticide Regulation is meant to limit the use of pesticides and airborne chemicals. They receive grant money from the EPA to enforce Title VI of the Civil Rights Act, which prevents discrimination based on race for federally funded programs. Families complained about the applications of toxic pesticides that were sprayed close to schools, and the California Department of Pesticide Regulation collecting data on the amount of pesticides used accompanied with inaction. Slow disasters are hard to take measures against because "the health consequences of chronic exposure to low levels of hazardous substances can take decades to show up" (Gross 2015). Due to the time it takes to view health issues, agencies such as the Department of Pesticide Regulation take longer to prevent air pollution from pesticides, which has disappointed Ventura County, one of the locations impacted the most.

Agricultural workers in Ventura County are in a unique situation because they work for companies that actively contribute to pollution and use pesticides, and are conflicted due to the negative health effects against them and other residents. They are knowledgeable of the agricultural processes and the companies, which is why some parents filed a complaint with the EPA in 1999, although they were agricultural workers themselves. Although there is the risk of being fired from their jobs or being deported if they were undocumented, they were willing to take a stand to protect their childrens' health and showed the incredible passion as Ventura County residents.

Pollution in the air is not the only form of pollution. The Oxnard facility of Arcturus Manufacturing Corporation has had runoff in 2017 containing metal components, which reached storm drains to the Ormond Beach Wetlands, the Pacific Ocean, and habitats. This facility violated the Clean Water Act so nonprofit Wishtoyo Foundation and their program Ventura Coastkeeper filed a lawsuit against Arcturus, which had to pay ocean conservation groups and "update its storm water runoff and monitoring policies at the now closed facility" (Solis 2018), lessening pollution in water sources in Ventura County. Although inaction by government agencies has led to companies taking advantage, residents and environmental groups have shown how to prevent slow disasters.

5. STAKEHOLDER ACTIONS

Ventura County's battle against pollution

Aiden Browne

In Ventura County there are many large stakeholders that are either helping to stop or contribute to the slow disasters occurring in Ventura County. The largest of which are the local government agencies, environmental groups, and polluters.

At a local government level, the mayor of Oxnard and his constituents are fed up with the harmful pollution plaguing Ventura County's miles of coastline. Their city has been working to get rid of community polluters by utilizing fines. In an article they made the following statement, "The people of Oxnard will no longer just accept further industrialization of our beautiful, but abused coast," said Carmen Ramirez, Oxnard's Mayor Pro Tem." (Zucket 2017). The pollution they are referencing is the wastewater dump that occurred in the Oxnard industrial area.

This environmental disaster introduces many other stakeholders in Ventura County that include the environmental organizations fighting slow disasters in Ventura County. Other important stakeholders are the polluters themselves such as Arcturus Manufacturing Corporation and VC foliar to name a few. In the case of the catastrophic wastewater dump

in the Oxnard industrial area Arcturus Manufacturing Company was responsible for the dump. While the local government posted large fines against the company, local environmental organizations also filed court cases against them. The following excerpt details the action these environmental organizations took against Arcturus, “Southern California nonprofit Wishtoyo Foundation and Ventura Coastkeeper filed their federal lawsuit against Arcturus Manufacturing Corporation in March 2017 over industrial runoff from the Oxnard facility.” (Solis 2018). This ultimately resulted in the manufacturing company abandoning their facility in the Oxnard industrial area.

Besides water and beach pollution another form of pollution in Ventura County is chemical drifts. These harmful chemicals can travel from agriculture fields and reach sensitive areas such as schools and residential neighborhoods. A stakeholder involved in cases like these are the companies using the pesticides such as VC Foliar. Another stakeholder in this case was the California Department of Pesticide Regulations. The CDRP conducted an investigation on VC Foliar after there were reports of chemicals from their fields drifting into a local neighborhood. "The investigation was conducted by Alec Thille, agricultural inspector/biologist associated with the VCAC’s office. According to the investigation report, Thille interviewed the sprayer, Robert Davis III, owner of VC Foliar, multiple times regarding spraying that took place April 1-3."(Rivers 2020). Cases like these are avoidable and should not be allowed to happen.

Luckily state government in California are helping vulnerable communities such as Ventura County in their environmental injustice fight. The California Department of Pesticide Regulation conducted a study on the pesticide use in Ventura County and found the following, “The pesticide burden borne by Ventura County was 10th highest in the state at 6,398,833 pounds in 2016.” (Miller 2018). The DPR also created new rules after seeing how pesticides were being used in close proximity to schools in Ventura County. “In response to that report’s disturbing findings, DPR enacted a new rule earlier this year

restricting the most drift-prone application methods within a quarter mile of schools and daycares from 6am to 6pm on weekdays." (Miller 2018). This is a perfect example of how the local government was able to effectively find the problem and provide a solution.

6. ROLE OF MEDIA AND BIG ENVIRONMENTAL ORGANIZATIONS

The lack of representation of problems in the media.

Neha Muvvala

Ventura County is surrounded by more populous areas. Therefore, the media coverage is not exactly strong in the area. There is a lot of media coverage, but it is not organized. Large news sources and environmental organizations cover the problems caused by slow disasters once or twice, but there is never a continued coverage of a certain problem or disaster.

Inevitably, there are local news sources that provide information on the different disasters that occur in the area, like pollution or runoff into the beaches. The larger ones of these local news sources include *VC Star* and *VC Reporter*. These news sources are local, so not many people may read them to do anything about the problems addressed in them. They are not as well known amongst citizens let alone larger environmental activists groups.

Larger news organizations are either very outdated or do not cover much. The *LA Times* is an example of this. There is one article from 1989 where many people's health were affected from a chlorine gas cloud caused by a firm called Travelin' West, and the city did

get "a cease-and-desist order requiring Travelin' West to stop discharging dyes and chemicals into the sewers by Jan. 1" (Connelly 1989). The Deputy City Manager, Jay Corey stated that "authorities believe that the firm was in the process of shutting down but it was unclear whether the chlorine tank was emptied Tuesday as part of that move. Travelin' West officials could not be located for comment" (Connelly 1989). The lack of communication and regulation during the time was never addressed in the media. Regardless of the information provided, not much action was taken against it because people did not have the resources to address it at the time. Beach pollution hazards were also addressed in 1998 after "the county's top medical official urged stringent measures, and a recent state law mandates that all California coastal counties take more aggressive action to protect swimmers and bathers" (Polakovic 1998). Until there was a dire reason for experts to complain, there was no action taken. The lack of coverage on the issue does not help with the fact that even the most apparent problems are not being addressed by locals.

Larger activist groups do mention Ventura County in their articles, but they never address the issue they mention again. There is never any follow up with a more recent article on specific topics. The only coverage that the Los Padres Chapter of the Sierra Club, the chapter representing the Santa Barbara and Ventura County areas, has of addressing any slow disasters in the area is an article for one of their missions, which is working towards "Building a clean energy future" (Sierra Club 2021). They do not inform the public or other activists about certain problems in the area that need to be addressed. The Central Coast Alliance United for a Sustainable Economy, or CAUSE, only shares their mission on their website in regards to addressing the problems even though they are quoted in some of the few articles that are written about Ventura County. There are some organizations like the Environmental Defense Fund where they talk about a certain issue. The groundwater decline near beaches is an issue that is very prevalent in the beach cities in Ventura County, but "In 2016 the Fox Canyon Water Market Pilot Project was launched as a collaborative effort among water managers, farmers, urban officials and

environmentalists, including The Nature Conservancy, who is cooperating with water managers to implement the project" (Babbitt 2016). There is a problem and solution being addressed here, but it was very hard to find on the website because it was the only article addressing problems in Ventura County directly. Information on the slow disasters in Ventura County is not as accessible to the public as it should be.

Even Wikipedia, the world's largest online encyclopedia, does not have information about the many slow disasters in the area. The only mention of slow disasters and pollution on the webpage on Ventura County is that “automobile emissions account for most of the air pollution. Other sources include chemical plants, gasoline stations, paint and cleaning products" (Wikipedia 2021). This was hidden amongst so much other information on the page that it cannot be considered informing the public through media. There is not a single discussion that people have had on that page about disasters, pollution, or even the sheer amount of people who have suffered many health problems and injustices in regards to pollution in the air and beaches.

Ventura County does not get enough media coverage about its environmental problems, and it needs it. There are many problems and injustices that could be solved through inciting action by informing the public and larger activist groups even if it just starts off with small local actions taken to clean up the area. This needs to be addressed going forward. In order for people to take a stand, they need to know what they are up against.

7. RECOMMENDED LOCAL ACTIONS

Local actions to mitigate injustices

Carmen Broadnax

The communities residing in Ventura County have faced multiple environmental injustices within the past couple of decades. The effects of these scenarios resulted in people being injured or having health complications caused by harmful pesticides that were in close proximity to residences, as well as other harmful fumigants.

Halaco Engineering company is a metal smelting company in oxnard, located on the coast. The plants' fumes affected nearby counties, specifically Ventura county. In 2001 the Ventura county Air pollution Control District (APCD) discovered that Halaco was violating the Clean Air Act. A health assessment found that the emissions from Halaco could cause cancer & chronic health risks (like reproductive toxicity) (Beach et. al). Halaco stripped away community service and outreach centers it was funding in response to attention and lawsuits being brought against the company.

The first local recommendation that can be made is to ensure that vital and useful community outreach programs are built and funded separately from companies that are or could potentially be the source of pollution or environmental injustice in the county. When these companies are in charge of programs that people are dependent on, they can use the threat of stripping them away in response to silence members of the community

that are negatively affected by the company. This can cause data of slow disasters to go unreported, which ultimately put people in danger. The elimination of this scenario effectively eliminates a factor that interferes with the collection of data that protects people from the possibility of slow disasters.

Another problem plaguing the residents of ventura county is the use of methyl-bromide in the agricultural sector. Agriculture in the County is a more than $2-billion business that supplies the country with agricultural products. The industry uses toxic fumigants and pesticides to control soil pests for most of its fruit and vegetable crops, as well as nursery plants. Fumigants and pesticides, including chlorpyrifos; methyl bromide, dichloropropene, and chloropicrin, utilized in agriculture fields near schools and day-care centers in the County, pose both chronic and acute health issues. In a 1990 study, the California Environmental Health Tracking Program concluded that the County had the highest number of schools (12) and the highest number of students (13,045) exposed to pesticides applied within a quarter-mile of the schools. The amount of pesticides applied within this area ranged from 2,635 to 28,979 pounds. Ventura County strawberry production is at its apex and methyl bromide is still in use (Paul 2009). Even though the county has spent decades trying to phase out the use of methyl bromide, no other safer and equally effective alternatives have been found.

Local actions that are suggested include writing to the Regional Water Quality Control Board (RWQCB) and requesting that agricultural operations be conducted to ensure the protection and enhancement of waterways. Also ask that any permit or conditional waiver that's granted to include requirements for pesticide and fertilizer reduction, monitoring of discharges, a fee structure to pay for the program, continuing education, and on-site farm plans that ensure steps are being taken to reduce pollution. Lastly, the only air collection monitoring station in the County is operated by the CDPR on the campus of Rio Mesa High School in Oxnard. Weekly sorbent samples are taken and analyzed. The Grand Jury recommends that VCAC establish more comprehensive air sampling of pesticides and

fumigants, either stationary or mobile, at additional locations in Ventura County where there are clusters of schools and day-care centers. This would give increased assurance of public health and safety intended by these regulations.

This suggestion opens up the possibility for a possible highschool program for schools located in Ventura County. This program would entail high schoolers taking air samples around their school and community and send the samples to be tested by the VCAC. After sending in the samples students can analyze the results to help build a better understanding for how air pollutants are affecting the areas they live in. This program will allow for more education on environmental topics directly impacting them, and it may also promote further political and community involvement.

8. RECOMMENDED EXTRA-LOCAL ACTIONS

What more should be done to reduce the injustices in this community?

Anissa Marosy

In response to the environmental vulnerability and injustices of the slow disasters most prevalent in Ventura County, many state agencies and some national agencies have stepped in to put a stop to the harm these communities are exposed to. Some of these actions include EPA regulations and checks on what pesticides are being used and how many pesticides are being used, as well as, “Organizing the county's existing contingency plan based on emissions from cars and trucks” (Center for Biological Diversity). Though these actions are on the right path toward stopping slow disasters from troubling neighboring communities, more can be done by extra-local agencies to further protect Ventura County and its residents.

First and foremost, there needs to be stricter implementation of going green in areas where pollution is predominant by state and national governments. I point this out now primarily because it is an action that is easier to accomplish than those at larger levels. Success is measured in small steps, not by accomplishing big tasks all at once. That being

said, in doing so, state laws can be put in place that will ban plastics, reduce emissions by vehicles, and reduce the use of fossil fuels. Nationally, schools should be required to teach students how they can go green moving forward, and the consequences on the environment and their own communities that pollution has. Generational improvement is a very important concept to grasp because if younger generations are unaware of how certain things poorly affect their environment, the problem will never be solved.

That being said, there needs to be an increase in media coverage that shows how harmful the chemicals in pesticides and other pollution from factories is. As the article, “Pesticide Use in Ventura County Near Record High in California” highlights, "The regulation also requires growers to provide an annual list of the pesticides they intend to use within one quarter mile of schools to school and daycare administrators as well as to County Agricultural Commissioners, who are responsible for carrying out local pesticide enforcement under DPR oversight" (Miller 2018). As schools are now being held into consideration of pesticide use and its effects, the communities as a whole need to be informed and held into consideration, and to do so, more media coverage needs to be in place. As a state, California should be held responsible for the lack of communication of how harmful polluting factors are in communities.

Lastly, a large amount of ocean pollution is caused by sewage, agricultural runoff, and fertilizers. These pollutants “can cause reproductive damage for wildlife in affected areas and contribute to increases in algae growth which disrupts the entire ecosystem. For exposed human populations – whether that exposure occurs via swimming, washing and bathing, or drinking and cooking —wastewater pollution can cause reproductive issues, rashes, stomach illness, even cancer and thyroid issues"(Culligan 2020). Agencies such as the EPA, and the state government need to focus on regulating what is released into the ocean. By setting strict regulations, companies and farmers can then halt the production of waste in the ocean, and reduce the environmental vulnerability in Ventura County. Along with the EPA and state government, international agencies such as Oceana can

enforce stronger implementations of ocean protection along the entire west coast of the United States, of course touching base with Ventura County. This global agency can influence others who are not from California to do more to protect the ocean, which can have a direct impact on Ventura County. Creating campaigns to specifically target Ventura County would have tremendous benefits for reducing ocean pollution and limiting environmental injustice.

There are many actions that are taken locally and extra-locally to reduce the environmental vulnerability and injustices of Ventura County caused by slow disasters. However, adding extra local actions from the local to international levels would greatly improve the chance of success in putting an end to the environmental injustices experienced in Ventura County. By building up support in this certain matter, small successes are more likely to be obtained.

FIGURE 21: The figure above shows the countywide days over ozone standards versus population growth. This graph shows the importance of continuous extra-local actions that will persistently reduce air pollution as populations in the county grow.

(Screenshot by Anissa Marosy, November 3, 2021)
http://www.vcapcd.org/air_quality.htm

9. RECOMMENDATIONS FOR FUTURE RESEARCH

What kind of data is missing?

Maximillian Einstein

Missing data is always going to be a major issue no matter where we are in the world. This is especially true in Ventura County where a ton of data is missing from the general public. Without this information, many people are very uninformed about what is actually happening in their society.

Some data that would be useful is the percentage of how much each company/situation actually creates. Since there are many different ways that pollution is created by knowing specifically where the most pollution actually comes from then this will help many environmental activists to focus on the biggest issues first. By knowing which categories create the most pollution we can focus on the specific category of polluters over other polluters. One of the biggest could be boats and ships because “a staggering 40% of all U.S. imports are funneled through our ports.” (Hayes 2021). Another example would be about how little data we have on CAFOs (Concentrated Animal Feeding Operations). In figure 22 it shows how little transparency that they have in California meaning that there is very little data to go on. This is why more information and transparency will allow for the biggest polluters to be focused first and allow for the best way to reduce the amount of pollution in the air.

Another piece of data that could be useful would be the specific chemicals that each company uses. By knowing which chemicals in the air cause certain diseases like asthma will help to know if companies are using these chemicals or not. Also if the chemical list was public, with easy access then the communities would know whether or not these companies are using chemicals that are harmful to citizens of the community.

One more data point that would be needed would be a survey from the people. A good survey idea would first be completely anonymous. The first question would ask the person taking the survey if they are concerned about pollution. The next question would ask if they are familiar with any data about pollution or read about pollution in their spare time. Then I would ask if they knew if their county was in the 82nd percentile for pollution burden. (Rivers 2017). Finally, I would reask the first question to see if they have changed their mind. By asking these questions we would get the data of if people are educated in their county. Also if they are open-minded to thinking about pollution and it is a major issue that is causing a ton of problems.

The people who are involved in this situation are some of the most important people to know about. This is why we must educate the people of Ventura County and ask if they really know how much pollution is in the air of their county? One good way that we can set up interviews with different types of social groups would be to go to different parts of the county with different economic statuses. By getting data from people of different economic status we will know if pollution is a concern to a certain group of people than others. The only part of the survey that would not be anonymous would be the part of the county that they live in, besides that everything would remain anonymous. This will help us to understand more about how certain social groups are being affected by pollution or if they have any prior experience with pollution. With this data, we would be able to find out which parts of the county are less educated on pollution. This data will help environmental activists groups to focus more on providing information to these less educated communities so that they will be able to know more about what horrible things are happening in their community. Overall this data would be useful for all people that are trying to get people on board with fighting against major polluters in Ventura County.

With all the ideas combined the people of Ventura County will have a much better understanding of how much pollution is really doing to their environment. By knowing more about the community will help the citizens to be more aware of what is going on in their county. With more data at the public's disposal, everything will be much easier and more clear.

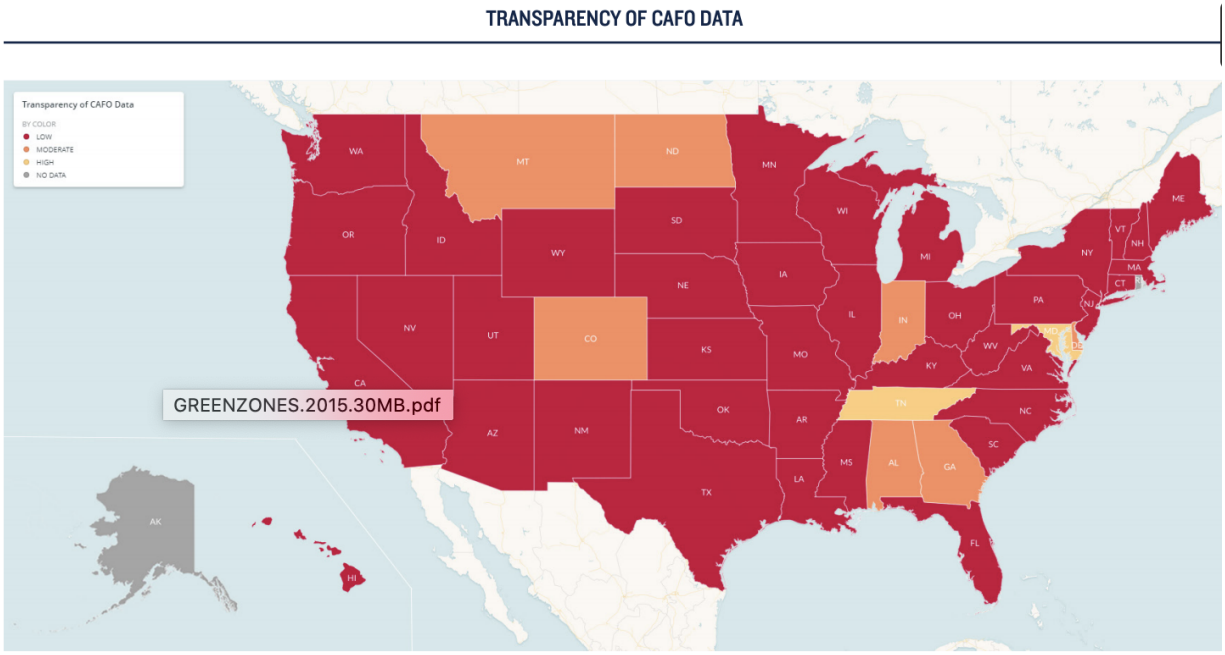


FIGURE 22: It is very difficult to find any data on CAFO. This is especially important because of the amount of pollution that comes from these animals. Since there are so many concentrated in such a small area this causes a ton of pollution, but with the very low transparency of data, this makes it nearly impossible to see how much of an impact these CAFOs have on the environment.
(Screenshot by Maximillian Einstein, November 3, 2021)
https://www.nrdc.org/sites/default/files/cafos-dont-know-hurting-us-report.pdf

10. INJUSTICE ANALYSIS

Dangers of Toxins

Matthew Le

There are several injustices occurring in Ventura County. Ventura County has multiple oil drills and farms nearby minority dominated communities. The strawberry farms in Ventura county are using pesticides which affect the children in nearby schools and the oil drills are producing cancerous fumes. These actions by the companies that own the farms and drills are not regularly being controlled by the local government which is why they could continue producing the toxins in the county. The injustices that are the most prevalent in the county are health, media, economic and racial injustices.

There are health injustices associated with Ventura county with the pesticides and oil fumes present. Alongside the pesticides and oil fumes, there are instances where the quality of life is lowered when there are droughts and extreme weather present. For example, “increased temperatures manifested as heat waves and sustained high heat days directly harm human health through heat-related illnesses (mild heat stress to fatal heat stroke) and the exacerbation of pre-existing conditions in the medically fragile, chronically ill, and vulnerable.18,19 Increased heat also intensifies the photochemical reactions that produce smog and ground level ozone and fine particulates (PM2.5), which contribute to and exacerbate respiratory disease in children and adults” (Climate Change and Health Profile Report Ventura County 2021). With the pollutants in the county affecting the residents, the heat makes the health issues greater. Since the children and the adults have pre-existing respiratory diseases, the health injustices are shown with the increased smog. The smog in the county shows health injustices because with heat, the air quality should

not have an effect on the residents. The health injustices in Ventura county could be prevented through lower emission of pollutants by companies which would lower the respiratory disease risks in the community.

There are media injustices in Ventura county because some of the actions by the companies in the county are not reported. The media injustice in the county occurs when some information is withheld and when the media is not acknowledged in the area. An example of the media injustice occurring is, “lab testing revealed that all samples collected contained the active ingredient in the pesticide and the gradient pattern of increasing exposure nearing the sprayed orchard indicates the source of the pesticide” (Rivers 2020). The information from the article shows how pesticides are being found in local waterways, but is not being reported widely in the media. If there are people who use the local waterways and are exposed to the pesticides unknowingly, there could be health damages to the people. The media is responsible for spreading information out because it is important for the residents to be aware of the dangers in the county. The media injustice occurs widely in the county because the levels of pesticides are not being largely reported.

The economic and racial injustices occurring in the county are located near farms where a large group of minorities reside. Since the farms in the country largely consist of low income and Latinx workers, they are the ones that are most exposed to the pesticides. An example of the economic and health injustice in the county shows when “A 2014 report by the California Department of Public Health (DPH) documented extensive use of hazardous pesticides within a quarter mile of public schools, with Latino children almost twice as likely as their white peers to attend one of the most impacted schools"(Miller 2018). Since schools are located near the farms and there are Latino communities near the farms and schools, the children are directly affected. There are economic and racial injustices because the Latinx community is directly affected by the pesticides being used on the farms and most of the members in the community are low income. The low income

communities and Latinx communities are strongly affected by the pesticides on the farms nearby increasing the injustices occurring in the area.

Ventura county is an example of health, media, economic, and racial injustice. There are health injustices where the children and adults are facing respiratory diseases with extreme heat. Media injustice occurs when there is a lack of information being spread about the pesticides in the local waterways. The racial and economic injustices are shown when the Latinx community faces the dangerous pesticides from the farms near their communities.

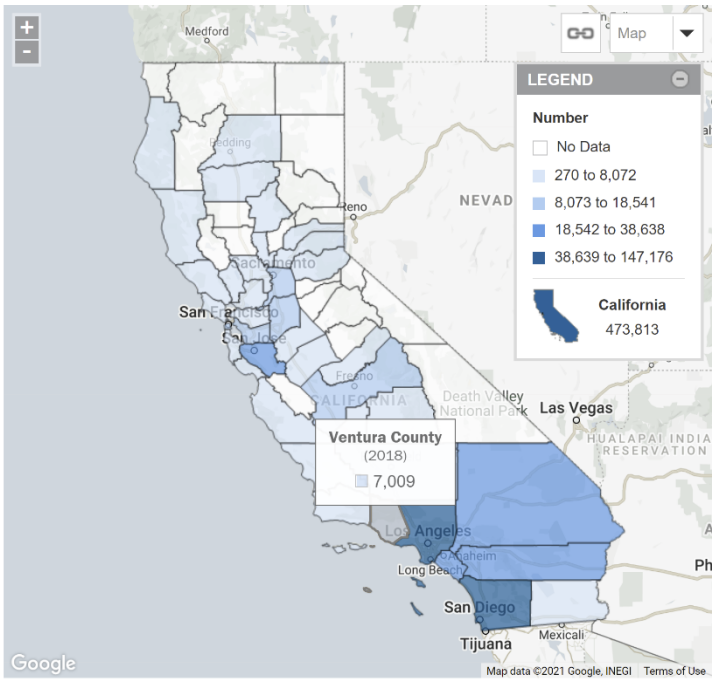


FIGURE 23: According to a study from 2018, 7,009 children ages 0-5 are affected by lead poisoning. Lead poisoning could be found throughout the county and could come from sources such as paint and fumes in the air.
(Screenshot by Matthew Le, November 3, 2021)
Children and Youth Screened for Lead Poisoning, by Age Group and Blood Lead Level (kidsdata.org)

BIBLIOGRAPHY

Babbitt, Christina. 2017. “Sunshine, Beaches And…saltwater Intrusion? Solving for Groundwater Decline on California’s Coast | Growing Returns.” December 11, 2017. http://blogs.edf.org/growingreturns/2017/12/11/groundwater-trading-california/

“Building a Clean Energy Future.” 2020. Sierra Club. December 3, 2020. https://www.sierraclub.org/los-padres/building-clean-energy-future

“California Healthy Places Index Map.” 2021. Public Health Alliance of Southern California. 2021. https://map.healthyplacesindex.org/.

Census Bureau, United States. n.d. “U.S. Census Bureau QuickFacts: Ventura County, California.” Accessed October 22, 2020. https://www.census.gov/quickfacts/venturacountycalifornia.

“Census of Agriculture - 2017 Census Publications - State and County Profiles - California.” 2017. United States Department of Agriculture. 2017. https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/California/.

Center for Biological Diversity. 2020. “Lawsuit Challenges EPA’s Failure to Clean up Ventura County Smog.” Center for Biological Diversity. August 24. https://biologicaldiversity.org/w/news/press-releases/lawsuit-challenges-epas-failure-to-clean-up-ventura-county-smog-2020-08-24/

“Climate Change and Health Profile Report Ventura County.” Ventura County Health Department. Accessed November 2, 2021. https://www.best-health-today.com/ventura-county-health-department/.

Connelly, Michael. 1989. “12,000 in Simi Valley Flee From Chlorine Gas Cloud.” Los Angeles Times. January 6, 1989. https://www.latimes.com/archives/la-xpm-1989-01-06-mn-239-story.html

Cota-Robles, Marc. 2021. “Ventura County Family Farm Pays It Forward by Donating Produce to Food Bank.” ABC7 Los Angeles. June 11, 2021. https://abc7.com/10777739/.

“County of Ventura Parks Department.” n.d. County of Ventura Parks Department. Accessed November 2, 2021. https://www.venturaparks.org/mbl/dayuse/.

Culligan Water. 2020. THESE COMMON CAUSES OF VENTURA WATER POLLUTION MIGHT SURPRISE YOU. Culligan of Ventura. August 17. https://culliganventura.com/blog/2020/08/17/these-common-causes-of-ventura water-pollution-might-surprise-you/#

Gross, Liza. 2015. “Fields of Toxic Pesticides Surround the Schools of Ventura County—Are They Poisoning the Students?,” April 6. https://www.thenation.com/article/archive/fields-toxic-pesticides-surround-schools-ventura-county-are-they-poisoning-students/

“Green Schools Program | Ventura, CA.” n.d. County of Ventura. Accessed November 2, 2021. https://www.cityofventura.ca.gov/1206/Green-Schools-Program.

Hayes, R. (2021, April 22). Los Angeles has nation’s worst air quality; SoCal counties get grades for ozone pollution. ABC7 Los Angeles. https://abc7.com/la-pollution-california-los-angeles-air-ozone/10535612/.

“Health Care Programs for the Uninsured of Ventura County.” n.d. Ventura County Health Care Agency. Accessed November 2, 2021. https://vchca.org/health-care-programs-for-the-uninsured-of-ventura-county.

“Home Page | California Rural Legal Assistance, Inc.” 2021. California Rural Legal

Assistance. 2021. https://crla.org/.

"How Much Do You Know about Your County?" 2020. County Explorer. 2020. https://explorer.naco.org.

"Key Industry Sectors in the Ventura County Economy." n.d. *Business Forward Ventura County* (blog). Accessed October 19, 2021. https://businessforwardvc.com/ventura-county-key-industries/.

"Lawsuit Challenges EPA's Failure to Clean Up Ventura County Smog." Center for Biological Diversity. Accessed on October 28, 2021. https://biologicaldiversity.org/w/news/press-releases/lawsuit-challenges-epas-failure-to-clean-up-ventura-county-smog-2020-08-24/.

Miller, Carol. 2018. Pesticide Use in Ventura County Near Record High in California. Citizens Journal. April 26. https://www.citizensjournal.us/pesticide-use-in-ventura-county-near-record-high-in-california/

Rivers, K. (2017, August 31). IN PURSUIT OF ENVIRONMENTAL JUSTICE | New state law maps disadvantaged communities. VC Reporter | Times Media Group. https://vcreporter.com/2017/08/in-pursuit-of-environmental-justice-new-state-law-maps-disadvantaged-communities/.

Rode, Erin. 2020. "Ventura County Star." VC Star. November 15, 2020. https://www.vcstar.com/get-access/?return=https%3A%2F%2Fwww.vcstar.com2Fstory%2Fnews%2F2020%2F11%2F15%2Fcalifornia-coronavirus-covid-19-ventura-county-financial-assistance-farmworkers%2F6265780002%2F.

Savidge, Nick. 2018. New California Law Requires Daycare Centers to Test for Lead in Water. EdSource. October 4. https://edsource.org/2018/new-california-law-requires-day-care-centers-to-test-for-lead-in-water/.

Solis, Nathan. 2018. California Manufacturer Settles Storm Water Runoff Pollution Case. Courthouse News Service. February 20. https://www.courthousenews.com/california-manufacturer-settles-storm-water-unoff-pollution-case/

Taeyoung, Em; Lesli, Morales; Erin, Ganuelas; RaLene, Page; Christopher, Berrios; An, Dang; Ashley, Santos. 2020. Slow Disaster Case Study: Ventura County. Environmental Injustice, Disaster STS Research Network.

"VCAPCD - Air Quality." n.d. Ventura County Air Pollution Control District. Accessed October 8, 2021. http://www.vcapcd.org/air_quality.htm.

"Ventura Citizens for Hillside Preservation." n.d. Ventura Citizens for Hillside Preservation. Accessed November 2, 2021. http://www.vchp.org/.

"Ventura County, California: History and Information." n.d. EReferenceDesk. Accessed October 21, 2021. https://www.ereferencedesk.com/resources/counties/california/ventura.html.

"Ventura CA Newspapers & News Media - ABYZ News Links." 2021. ABYZ News Links. 2021. http://www.abyznewslinks.com/unitecavn.htm.

"Ventura County Star." 2021. Ventura County Star. 2021. https://www.vcstar.com/get-access/?return=https%3A%2F%2Fwww.vcstar.com2Fstory%2Fnews%2F2021%2F08%2F08%2Fhouweling-nurseries-oxnard-sell-cnnabis-grower%2F5501392001%2F.

"What to Do About Water: Efforts Continue to Create a Sustainable Ventura River Watershed - VC Reporter: Times Media Group." VC Reporter | Times Media Group, October 6, 2021. https://vcreporter.com/2021/10/what-to-do-about-water-efforts-continue-to-create-a-sustainable-ventura-river-watershed/.

FIGURES