

**A Santa Barbara County Action Network Alert:**  
**Impacts and Risks from Oil Trains and the Phillips 66 Rail Spur Project**

*Keeping Explosive Canadian Tar Sands Oil  
from Riding the Rails through Santa Barbara County*  
By Jane Baxter. Edited by Ken Hough. 2<sup>nd</sup> Edition: July 8, 2015

**ALERT SUMMARY:**

Visualize the ramifications of a crash of a train carrying up to 3 million gallons of crude oil along the coastline of Santa Barbara County. This would dwarf the recent Plains All-American pipeline spill at Refugio Beach (reported as 101,000 gallons), which sent oil at least as far as Redondo Beach. Currently we have the potential for this type of train accident because three or more oil trains a week already travel south from the San Ardo oil field in Monterey County through Santa Barbara County. Now imagine the catastrophe that would result if one of these oil trains derailed with ensuing fire and explosion in one of the 11 Santa Barbara County communities that the Union Pacific Coast Line runs through.

This report details the specifics of what would happen and be at risk from such accidents. It also recommends action that could reduce future oil train traffic and keep a more explosive and more environmentally dangerous oil product from riding the rails through Santa Barbara County: opposition to the Phillips 66 Santa Maria Oil Refinery Rail Spur Project.

This alert does not evaluate the hundreds of pages of environmental impacts of the project detailed by San Luis Obispo County in the EIR for the Rail Spur and other issues raised by concerned residents, activists and government officials up and down the West Coast. It focuses on the impacts and risks in Santa Barbara County of existing oil train traffic and the increased impacts and risks that could occur if the project is approved.

Learn about these risks:

- ☐ The lives and health of residents working or living in the Blast Zone can change forever.
- ☐ Eleven communities are in the Blast Zone: people, homes, businesses, and community facilities.
- ☐ Economic well being of residents, businesses and government agencies can be devastated.
- ☐ Cottage Hospital is in the Blast Zone, and Goleta Valley Hospital is in the Evacuation Zone.
- ☐ Thirty schools countywide are in the Blast or Evacuation Zones.
- ☐ Three jails, 12 fire departments, historic structures, municipal buildings and dozens of other key community facilities could be lost or shut down.
- ☐ Over 70 rail crossings create the potential for collisions with vehicles, farm equipment, and pedestrians.
- ☐ The majority of the county's coastline is vulnerable to an oil spill far larger than the Refugio spill.
- ☐ Threatened and endangered wildlife and their habitat are at risk along miles of tracks.
- ☐ Over 50 irreplaceable creeks, riparian habitats, and coastal canyons are crossed by the tracks.
- ☐ A major wild fire could start from an oil train accident.
- ☐ Recreational resources such as Stearns Wharf, State Parks and Beaches, Santa Barbara Zoo, county and city parks, etc., could be lost or damaged.

Make your voice heard! Encourage your local civic leaders to oppose this dangerous rail spur project and express your views directly to the decision makers in San Luis Obispo County.

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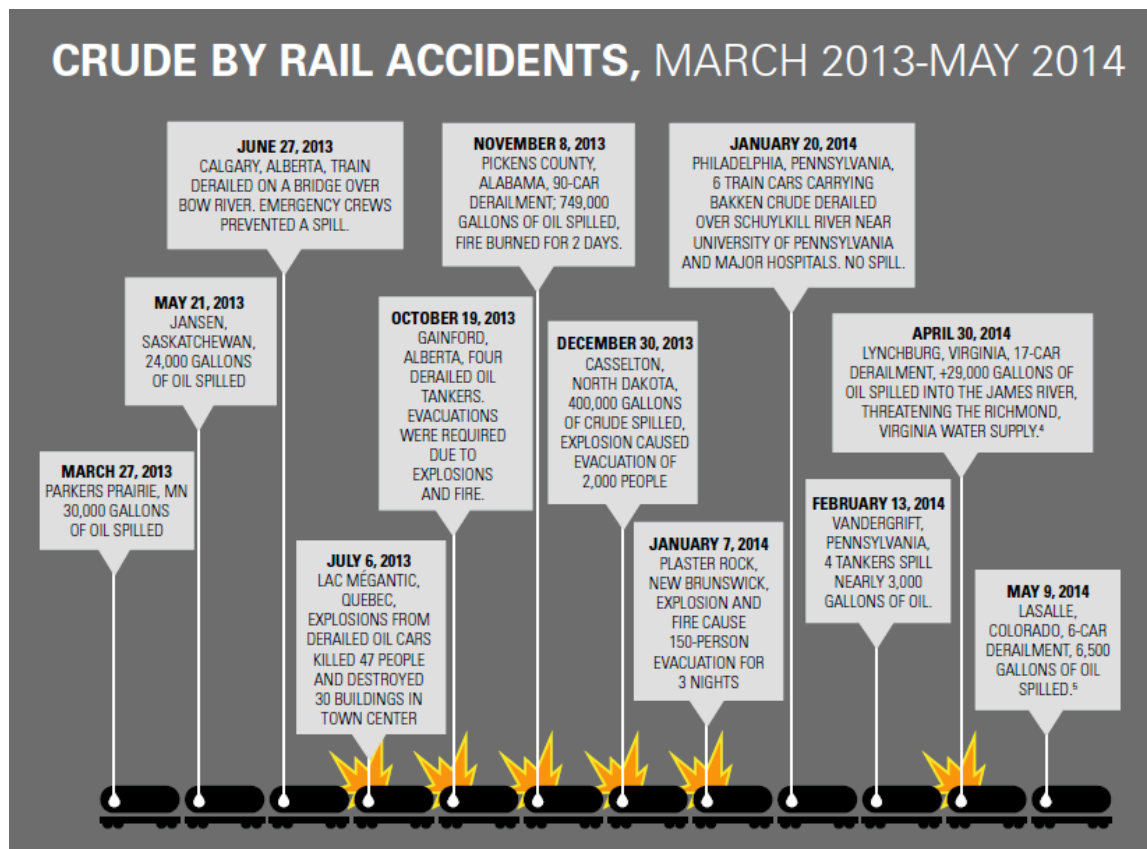
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**1. SANTA BARBARA COUNTY ALREADY HAS AN OIL TRAIN PROBLEM:** Trains carrying flammable oil from the San Ardo oil field north of Paso Robles and trainloads of liquefied petroleum gas are already running south through 11 Santa Barbara County communities along the Union Pacific Coast Line. They are under the jurisdiction of the federal Department of Transportation and legally neither Santa Barbara County nor the endangered cities along the rail line have the authority to stop them from coming or reduce their numbers. Oil train accidents are occurring in California. A report about our state's oil train record found incidents involving oil-by-rail cars increased from three in 2011 to 25 in 2013. There were 24 incidents within the first six months of 2014, and oil spills from rail cars increased from 98 in 2010 to 182 in 2013. (Oil by Rail Safety in California Preliminary Findings and Recommendations, State of California, Interagency Rail Safety Working Group, June 10, 2014.)

<http://sd27.senate.ca.gov/sites/sd27.senate.ca.gov/files/Oil%20By%20Rail%20Safety%20in%20California.pdf>

**2. WE CAN DO SOMETHING TO REDUCE FUTURE OIL TRAIN TRAFFIC: OPPOSE THE PHILLIPS 66 RAIL SPUR PROJECT:** There exists today, however, a unique window of opportunity for Santa Barbara County, our impacted coastal cities, governmental agencies, and impacted school districts, to take action to significantly reduce the number of future oil trains coming through our county. Carpinteria and Goleta have already led the way by sending letters to San Luis Obispo County urging denial of the project. We can oppose the proposed Rail Spur Project at the Phillips 66 Santa Maria Refinery on the Nipomo Mesa and encourage San Luis Obispo County officials to deny the project. The Rail Spur project would allow up to five trains per week of up to 80 cars each to unload highly explosive Canadian tar sand oil at the refinery. Some or all of these nearly mile-long trains could be routed through Southern California and run north through Santa Barbara County to the refinery. This increase in oil train traffic through Santa Barbara County would dramatically increase current levels of risk.

A growing list of California cities and counties, including the Santa Barbara cities of Carpinteria and Goleta, school districts, and the California Teachers Association has opposed the project. Denial of the Rail Spur project would reduce the risk of accidents in communities like the explosions in Lynchburg, Virginia and in Lac Megantic, Quebec, (both included in the following graphic). In Lac Megantic, blocks of the downtown were destroyed and 47 lives lost. (Five additional major accidents have occurred in the year since the chart was created.)



**3. SEVEN BAY AREA CITIES COMMISSIONED A STUDY OF THE IMPACTS OF THE PHILLIPS 66 RAIL SPUR PROJECT:** This local SLO project is of such concern to the numerous cities on the rail lines between Canada and San Luis Obispo, that the Bay Area's impacted communities of Richmond, Berkeley, Oakland, Hayward, Fremont, Santa Clara and San Jose commissioned a study about the Rail Spur Project. It concluded that there is a probability of 3.3% annually that there could be an oil train derailment in the Bay Area. Just looking at the most highly populated stretches, including Berkeley, Emeryville, Oakland, Santa Clara, San Jose and others, the estimated likelihood of at least one derailment over the next 30 years is approximately 28%, assuming no increase in shipping volumes.

The Bay Area analysis, by Hinman Consulting Engineers, Inc., concluded “a reasonable estimate given a derailment along a populated stretch of track and an impact zone of 1,000 feet on either side, is that an average of 117 households could be destroyed along with \$244 million in property value. These estimates do not include loss of revenue, environmental cleanup costs, loss of human life, or other societal costs.”

([http://hce.com/Library/documents/New\\_Oil\\_Transportation\\_Risks.pdf](http://hce.com/Library/documents/New_Oil_Transportation_Risks.pdf))

Locally, a community organization, Mesa Refinery Watch, has identified numerous valid concerns about the project in a short PowerPoint (The Mesa Refinery Watch Presentation at <http://www.mesarefinerywatch.com>). Because the many flaws with the project have been well addressed by Mesa Refinery Watch, this SBCAN alert does not address these myriad issues, but focuses instead on what the impacts and risks are in Santa Barbara County.

#### **4. WHAT'S AT RISK FROM A RAIL DISASTER IN SANTA BARBARA COUNTY:**

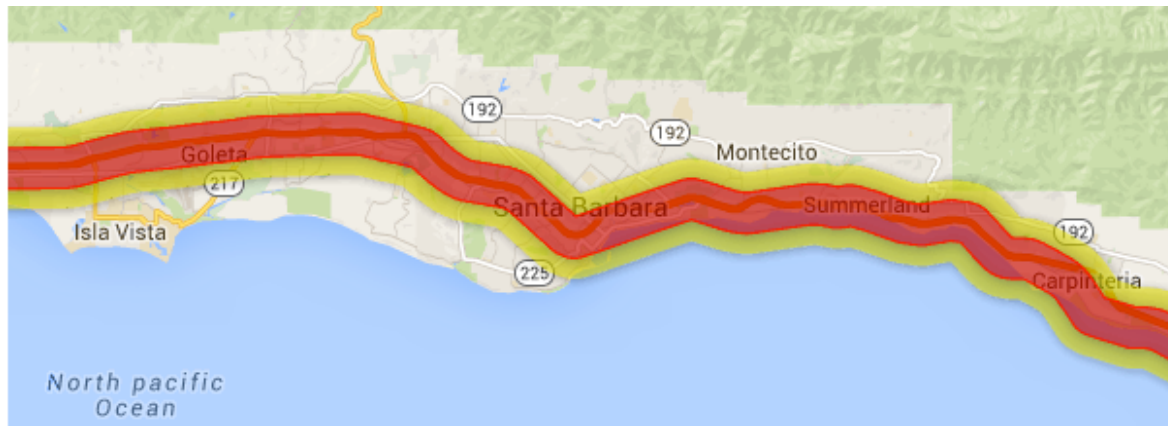
**4.1. WHAT HAPPENS IN AN OIL TRAIN ACCIDENT?** The impact area from an oil train disaster includes several zones of damage and impacts. The size of these zones varies depending on the perspectives of different agencies. Forest Ethics, an organization looking into impacts of oil train accidents, considers the closest area to a oil train wreck to be the half-mile Blast Zone on either side of the tracks, which is shown with red on the following map. This is where the concussive force of an explosion causes nearly all the deaths to occur. It is where serious toxic smoke inhalation injury takes place and when common sense to flee the area is overcome by the desire to help the injured. It is also the minimum recommended evacuation zone for an oil train derailment without fire. In the event of fire, the evacuation zone expands.

The two-mile wide evacuation zone (one-mile on either side of the track) shown in yellow on the following map is the recommended minimum by federal agencies in case of a derailment with fire. Depending on the severity of the incident, this zone can sustain broken glass and building damage from the shock wave. The ATF considers 7,000 feet a Falling Glass Zone, from an explosion of a semi trailer loaded with explosives (which could be considered analogous to the explosion of a tanker car). That is well over a mile. Officials in the Casselton, North Dakota oil train explosion and fire, strongly recommended evacuation of residents five miles downwind of the fire.

The heat in the Blast Zone can be intense. For example, five bodies from the Lac Megantic, Quebec oil train accident Blast Zone were never found and considered vaporized. The Telegraph News and Media Website reported that during the oil train fire near Casselton, North Dakota, in minus 18 degree Celsius temperatures, one could feel warmth even inside a house that was a half-mile from the fire.

The Blast Zone is where the concussive force of the blast causes injury or death. The Bureau of Alcohol, Tobacco and Firearms (ATF) indicates a Lethal Air Blast Range of 600 feet from an explosive semi trailer with explosive cargo. This area is where most of the serious burns to exposed body surfaces occur; where buildings collapse; where debris, broken glass and tanker metal fragments can fly through the air. These can cause injury to evacuating survivors, first responders, and unsuspecting onlookers. According to Guadalupe Police Chief Hoving, an oil tanker in a "directional explosion" was known to have been launched over a mile from the track, landing a considerable distance outside the half-mile Blast Zone.

In the Blast Zone, if one tanker catches fire it can act like a blowtorch on adjacent tankers, causing a succession of explosions, each with huge fireballs, toxic smoke and flying debris. Any tankers filled with Non-odorized Liquid Petroleum Gas (a common sight in Santa Barbara County) that are exposed to heat can vent toxic non-odorized gas leading to possible asphyxiation, prior to explosion. A major fire of LPG will also release deadly carbon monoxide. Even "empty" tankers drained of liquid contain oil residue and fumes and are explosive, having an increased air/fuel mixture. The LP Gas industry agrees that an empty LP container is actually more explosive than a full one.



**4.2. ELEVEN COMMUNITIES IN THE BLAST ZONE:** Eleven Santa Barbara County communities are located within the two-mile wide (a mile on either side of the tracks) official U.S. Department of Transportation potential impact zone in case of a wreck involving an oil train fire: the Rincon neighborhood, Padaro Lane neighborhood, Carpinteria, Sandyland, Summerland, Montecito, Santa Barbara, Goleta, Hollister Ranch neighborhood, Casmalia, and Guadalupe. A major accident can have profound impacts on residents and the community itself.

Within these communities, there are numerous rail crossings where vehicles and trains can collide with an oil train, causing a derailment. Many of these crossings are unprotected. Also there are numerous crossings where pedestrians regularly cross the tracks and have created footpaths that are potential accident sites, as engineers risk possible derailment at they attempt to brake the train to avoid killing pedestrians. There are over 70 of these crossings in the county, when you include dirt road agricultural crossings, all of which increase the risk of a mishap of consequence.

The worst-case example of an oil train wreck involves an oil spill, a spark, a fire, and subsequent explosions. What is at risk in these communities are lives, resident and visitor injury, loss of homes and businesses, destruction of community landmarks, municipal buildings and history, loss of or impact to unique environmental resources, injury to our first responders, economic impact from loss of tourism and other business income, and any unreimbursed government costs.

**4.3. LOSS OF LIFE, INJURY AND HEALTH IMPACTS:** In populated areas, oil train fires can lead to the loss of life, (48 died in the 2013 Lac Megantic, Quebec oil train disaster with proposed compensation of \$430 million). Death and personal injury comes from: the shock wave of the explosion; collapsing buildings; flying debris; possible asphyxiation from leaking toxic gases; burns to skin and internal burning from inhaling hot smoke, evacuation of "high risk" hospital patients and the elderly. Last but not least, first responders, often without adequate training and equipment, can die doing their risky jobs. Health impacts come from crude oil spills since petroleum is both toxic and carcinogenic. Respiratory problems come from inhaling small particulate matter, toxic gases, etc., found in the thick smoke (see Section 4.4 to follow).

There can be emotional trauma to both adults and children exposed to the disaster. Employees forced to evacuate the three jails in the one-mile zone, zoo employees trying to save animals, staff trying to evacuate Alzheimer's facilities, and hospital employees dealing with evacuating high-risk ICU patients all could experience stress disorders. There would be inconvenience and stress from

evacuation and relocation, if homes and businesses were destroyed. There is also stress and inconvenience caused by closed highways and roadways during and after the emergency.

Visualize the human cost of an oil train wreck, spill, fire, and exploding oil tankers without adequately trained and equipped first responders ready to contain an expanding hazardous materials fire. Would there be the massive amounts of required special foam retardant to fight an oil fire? Think of the compounding problems if Cottage Hospital, located in the Blast Zone last zone about 1/4 mile from the track, needed to be evacuated and was unable to treat survivors, or even worse, suffering major damage. If so, we could lose the only burn unit in Santa Barbara County and burn patients would be routed all the way to the San Fernando Valley, which is the next closest burn unit.

Cautious public officials have evacuated residents and closed business up to ten miles from an oil fire. Goleta Valley Hospital, a half mile from the tracks, is also about five miles from Cottage Hospital and there could possibly be an accident where both hospitals could need to be evacuated at the same time and are unable to care for the injured.

There are 30 schools located in Santa Barbara County within the Blast or Evacuation Zones. Depending on the disaster location, hundreds of school children would go through the trauma of evacuation, with many possibly needing medical attention for smoke inhalation or other injuries. These concerns about schools and student impacts are what caused the California Teachers Association and 12 school boards to oppose this project. There are also a number of senior-citizen facilities and nursing homes in the Blast Zone, impacting older residents needing special assistance to evacuate.

4.4. HEALTH RISK FROM OIL TRAIN FIRE SMOKE: It is commonly known that smoke inhalation is the leading cause of death from fires. According to the "Explainer Section" of the slate.com website, an oil fire tends to burn very black because most of the fuel is converted into elemental carbon, which forms into tiny particles that absorb light. Because few fire departments are either trained or equipped to extinguish an oil train fire, they are normally left to burn out, a process that can take up to a week and generate massive amounts of toxic, particulate-laden smoke.

Depending on wind conditions, the plume of smoke can rise many hundreds or even thousands of feet and disperse diluted smoke and relatively low concentrations level of pollutants miles downwind. A study of military personnel serving in Kuwait exposed to oil fire smoke found "the signs and symptoms at this level of exposure include 'black mucous or material' in eyes, nose, or mouth; eye or mucous membrane irritation—often with nasal discharge and tearing, shortness of breath, hoarseness, and cough."





However, if there is an inversion layer or no wind, the plume can "touch down" leaving high levels of soot, hugging the ground at breathing levels. This photo above of the Lac Megantic, Quebec fire depicts how visibility can extend only 10-15 feet. According to the "Minnesota Department of Health Fact Sheet: Health Concerns Associated with Oil Fires", those in the immediate vicinity of an oil train fire can experience:

Inhalation of large amounts of gases, vapors, fumes, and smoke [which] can affect tissues of the respiratory tract and produce effects ranging from minor immediate irritation, to rapid or delayed airway and lung diseases. Corrosive or irritant species can produce serious effects. The onset of some dangerous conditions may appear suddenly after a period of time following exposure has elapsed. Individuals directly exposed to the heat and smoke of an oil fire should be evaluated by a medical professional for signs of thermal and chemical burns and acute inhalation exposure.

Of special concern is the impact of inhaling soot particles of one micron or less by the most vulnerable populations: those under the age of 11, over the age of 70, and people with asthma, COPD, and emphysema.

**4.5. STRUCTURES AND FACILITIES AT RISK IN THE IMPACT ZONE:** All of the facilities listed below could need to be evacuated depending on the location of an oil train accident and could sustain damage. There would be special difficulty with evacuating hospital patients, prisoners and zoo animals, under the best of circumstances, let alone when immediately threatened by fire.

- ☐ Thousands of homes ranging from modest tract residences to multi-million dollar beach estates.
- ☐ Many hundreds of businesses, ranging from shop-front stores to industrial sites.
- ☐ 30 schools.
- ☐ Two hospitals.



- ☐ Three Amtrak stations.
- ☐ Twelve fire department facilities.
- ☐ The Santa Barbara Airport (some runways are in the Blast/shrapnel Zone).
- ☐ Santa Barbara County Court House (on the edge of the 1/2-mile Blast Zone).
- ☐ Santa Barbara County Buildings.
- ☐ City Halls in Santa Barbara, Goleta and Carpinteria.
- ☐ Public buildings in numerous parks.
- ☐ Stearns Wharf and the Santa Barbara Harbor.
- ☐ Historic buildings in many communities, especially Guadalupe.
- ☐ Hotels in Montecito, lower State Street, Santa Barbara Harbor area, Goleta and the Bacara Resort.
- ☐ Earl Warren Showground.
- ☐ Santa Barbara Juvenile Jail, the County Main Jail and the Medium Security Facility.
- ☐ Shopping Centers: Paseo Nuevo, La Cumbre Plaza, Five Point Shopping Center, Storke Plaza and Camino Real Marketplace.

Are Santa Barbara County's and our municipal first responders ready to protect these facilities from an oil train disaster like the one below in West Virginia, featured on the cover of the Center for Biological Diversity's report "RUNAWAY RISKS: Oil Trains and the Government's Failure to Protect People, Wildlife and the Environment?" (See last section for details.)



#### 4.6. ECOLOGICALLY SIGNIFICANT RESOURCES AT RISK:

Surface water: Creeks, rivers, and ocean habitat along the Union Pacific Coast Line are vulnerable to the heavy tar sands oil, which, when spilled, gradually sinks to the bottom of aquatic environments. The April 2015 edition of the "Santa Lucian," the publication of the San Luis Obispo Chapter of the Sierra Club, reported that five years after a tar-sands oil spill and a clean up costing more than \$1 billion, approximately 20% of the oil is still in the Kalamazoo River in Michigan, and the river and wetlands are damaged beyond repair. The May 2015 Plains oil pipeline break at Refugio Beach spilled an amount of oil equal to less than that found in four rail tanker cars.

Tar Sands Oil clean up, in aquatic environments, is complicated by the fact that tar sands oil and the diluents used in shipping does not float on the water like most conventional oils, but sinks beneath the surface. According to June 26, 2012, Inside Climate News: “Existing clean up procedures and equipment are designed to capture floating oil”... **Nancy Kinner**, a professor of civil and environmental engineering at the University of New Hampshire who studies submerged oil, said ‘When you can't see [the oil], you don't know where it is, so it's very hard to clean it up’ ... the average cleanup cost of every crude oil spill from the past 10 years was \$2,000 per barrel. The Marshall (dilbit Kalamazoo River) spill has cost upwards of \$29,000 per barrel.”

Threatened or endangered species: In California, there is critical habitat for 57 threatened or endangered species, including the California tiger salamander, California red-legged frog, piping plover, bull trout and several imperiled species of salmon, steelhead and sturgeon, according to The Center for Biodiversity. Many of these species are found by the Union Pacific Coast Line in Santa Barbara County and are at risk from an oil train spill.

Unique riparian and coastal canyon habitats: Any of 55 creeks and unique coastal canyon ecosystems that are crossed by the tracks could suffer an oil spill and irreparable damage. These include: Toro Canyon, San Ysidro Creek, Cold Springs Creek, Mission Creek, San Jose Creek, Las Vegas Creek, San Antonia Creek, Tecolote Canyon, Gato Canyon, Caguda Del Capitan, Caguda Del Refugio, Las Flores Canyon, Tajiguas Creek, Arroyo Quemado, Arroyo Hondo, Canyon de la Posta, Canyon del Molino Canyon San Onofre, Canyon Del Agua Caliente, Canyon del la Quarta, Canada De Santa Anita, Arroyo Bulito, Canada del las Agujas, Canada de las Llegua, Canada del Cojo, Damsite Canyon, Wood Canyon, Black Canyon, Jalama Creek and Canyon, Long Horn Canyon, Sudden Canyon, Canyon del Morida, Canyon del Rodeo, Oil Well Canyon, Grey Canyon, Canada Honda Creek, Spring Canyon, Bear Creek, Canyon Tortuga, San Antonia Creek, Santa Ynez River, and Santa Maria River.

Bridges and trestles: Much of the rich marine resources on the coastline of Santa Barbara County are at risk from oil spills along the railroad line. Many of these North County beach areas are inaccessible by road, compounding the job of spill containment, fire fighting, and environmental clean up. Of special concern are the over 50 railway bridges and trestles along the coast, crossing Santa Barbara County creeks and canyons. They could put our marine resources at risk of oil spill if structurally unsound. A minor tilting of such a structure could cause a derailment and a disastrous chain of events. According to the documentary by the Weather Channel, “BOOM: North America's Explosive Oil-By-Rail Problem.”

There is little oversight of railroad bridges. The Federal Railroad Administration has set no engineering standards for railroad bridges, relying almost entirely on individual railroads to inspect, maintain and repair their own bridges and trestles, some of them built more than a century ago. State and local governments can't independently assess the condition of local rail infrastructure because their inspectors don't have access to the railroads' design and maintenance records, or to the tracks, trestles and bridges themselves. The railroads consider such information proprietary; the tracks and bridges are their private property and disclosure of those materials is voluntary. According to FRA accident records, only 58 train accidents were caused by the structural failure of railroad bridges for the 27 years from 1982 through 2008. But most of the surge in oil has come since then. For the public or even

local governments, confirming that a specific bridge is safe enough to handle the new oil trains is almost impossible.

Examples of ecologically significant resources at risk:

- ☐ Groundwater/drinking water resources: these could be impacted by a crude oil spill.
- ☐ Wildfire: A catastrophic wildfire could result from an oil train fire and cause extensive damage to wild life, wild lands and important wildlife habitat in the County, especially in Los Padres National Forest.
- ☐ The Santa Maria River and the sensitive wetlands, and estuary ecosystems at the coast, are located four miles downstream from the tracks.
- ☐ The Carpinteria Bluffs Nature Preserve.
- ☐ The Carpinteria Salt Marsh.
- ☐ The Andrea Clark Bird Refuge in Santa Barbara next to the Zoo.
- ☐ The 782-acre Arroyo Hondo Preserve on the Gaviota Coast.
- ☐ The Sperling Preserve near Ellwood.

4.7. UNIQUE RECREATIONAL RESOURCES AT RISK IN THE BLAST ZONE:

- ☐ State Parks: Carpinteria, El Capitan, Refugio, Gaviota.
- ☐ Point Sal State Beach.
- ☐ County and city parks: Rincon Park, Tar Pits Park, Salt Marsh Park, Lookout Park, Jalama Beach County Park, and Lake Los Carneros Park.
- ☐ Miles of one-of-a-kind beaches.
- ☐ World-renowned surf breaks.
- ☐ Los Padres National Forest (at risk of wildfire from oil train accident).
- ☐ Eight golf courses, clubhouses and infrastructure.
- ☐ The Polo Fields.
- ☐ The Santa Barbara Zoo.
- ☐ The Harbor, Stearns Wharf, State Street recreational resources, municipal pool, tourist shopping areas, and restaurants all near the Amtrak Station.

**5. ECONOMIC IMPACT OF OIL TRAIN DISASTERS**

5.1. OVERVIEW: There would be both short- and long-term economic impacts from an oil train disaster. The cost of clean up from a large crude oil spill impacting beaches, ocean, creeks or rivers is huge. The May 2015 Refugio pipeline break initial response and clean up at its height involved approximately 250 professionals at the federal, state and local level from over a dozen agencies, over 1,000 workers in the field, 18 boats and two helicopters. Six weeks after the spill, the ongoing clean up costs had exceeded \$100 million. In contrast, cleanup of a similar sized spill of tar sands—and the diluent used to thin it for transportation—would run 15 times that amount (see quote by Nancy Kinner on page 10).

Now consider additional costs of an accident that included fire and explosions in one of our communities. There would be the immediate economic loss to business while major roads, like Highway 101, are closed at the same time rail deliveries stop. Goods would not be moving in or out of the disaster area effectively for some time. Tourists would not be coming into an area with compromised air quality, congested traffic and fouled beaches. The May 19, 2015 Refugio oil

pipeline break showed how tourism suffers, even outside the impacted area. FAA flight restrictions might be imposed if smoke blows toward the airport. There would be the immediate cost for evacuation shelters and of longer term housing for displaced families. There would be lost income from businesses while they wait to settle insurance claims and reopen or rebuild, hardships for those who are underinsured or not insured at all, and tough times for those who got inadequate insurance settlements and are unable to rebuild homes or reopen businesses. The reimbursement process for government agencies, businesses and individuals is a complex, long-term and contentious process, not always resulting in a satisfactory outcome for the claimants.

To give an idea of scale, the 2013 oil train fire pictured below in Lac Megantic, Quebec, destroyed 115 businesses.



Governments would sustain the costs of first responders, evacuation, asset protection at the time of the fire, initial environmental containment, and the cost of fighting a possible wild land fire. There would be reconstruction cost of municipal buildings, park facilities, schools, hospitals, Amtrak facilities, etc. There would also be the likely expense of legal action to attempt to collect adequate reimbursement from Union Pacific or others for all of these expenses.

The Weather Channel's documentary "BOOM" covered an April 2013 National Transportation Safety Board meeting where Ed Hamberger, head of the Association of American Railroads stated:

When things do go sideways, the railroad companies compensate communities for damages to person or property. Yet the small railroad that operated the train that derailed in Quebec declared bankruptcy almost immediately. It had only \$25 million in liability insurance and was facing liabilities that might reach \$2 billion. Almost a year and a half after the disaster, it remains unclear who will pay to rebuild the town, clean up the oil and compensate the families of the 47 people who were killed. [In June 2015, about 25 companies



have agreed to contribute \$430 million to a compensation fund for victims, but the railroad is holding out on endorsing the settlement.]

After the dust settles, there could be possible long-term loss of property value due to losing tourist appeal, ending up with numerous empty or abandoned properties where rebuilding is not feasible, or lack of government funding for replacement school facilities, city buildings, park facilities, etc. Potential residential or business buyers might even wonder if lightning could strike twice, so to speak, in the same location in a rebuilt Blast Zone area.

**5.2. AGRICULTURAL RESOURCES:** The greenhouse area of Carpinteria could suffer from any blasts, fires, or shrapnel-like material. South County field crops along the tracks could be damaged directly by oil spill, fire, or toxic ash or smoke damage. North County field crops along the tracks from Vandenberg to Guadalupe could suffer the same fate.

**5.3. IMPACT ON FISHERIES:** In the event of a train derailment resulting in a significant spill, fisheries would be closed for miles around any oil spill that reaches the ocean, impacting surf fishing and skin diving from the shore as well as commercial and recreational fishing and diving from boats. For example, the Refugio spill, which reportedly put about one rail tanker car's volume of crude oil into the sea, caused a fishery closure of 138 square miles for a six-week period. Loss of profits and earning capacity from local commercial fishing operations such as trawlers, crabbers, etc., would be significant. Recreational charter fishing boats operating out of Santa Barbara Harbor could be affected as well as whale watching, depending on the season. There would also be additional agency costs for monitoring and enforcing the fishery closure.

It is difficult to put a dollar value on dead and impacted wildlife/birds, marine mammals, fish, crabs, lobster, abalone, other shellfish, tide pool species, etc. Some of these impacts can be multi-generational. These would be valuable public resources lost.

## **6. ON-GOING DAILY PROBLEMS FROM OIL TRAINS**

**6.1. ON-GOING PROBLEM OF EMERGENCY-VEHICLE DELAYS:** In Santa Barbara County, along the Union Pacific Coast Line, there are dozens of at-grade crossings where exceedingly long oil trains can hold up street traffic for extended periods of time. These delays can be life threatening if someone is being rushed to the hospital. Likewise, fire-truck delays could threaten life or property. The Washington Physicians for Social Responsibility's *Position Paper on Crude Oil Transport and Storage* states: "Emergency vehicle delay at railroad crossings could result in increased fatalities. Five to ten minute delays in emergency medical service (EMS) can critically alter chances for survival, particularly in the case of cardiovascular and respiratory emergencies as well as trauma. The additional blocked traffic at train crossings could make the difference between life and death."

(<https://drive.google.com/file/d/0BxmHEo6N5zkRMG5PMk5DTjVvbUk/view?pli=1>)

**6.2. RESIDENTS WOULD BE EXPOSED TO INCREASED ON-GOING AIR POLLUTION FROM THE RAIL SPUR PROJECT:** Increased oil train traffic brings increased diesel particulate matter to communities near the rail line. Diesel emissions from idling train engines while unloading crude oil and loading refinery products will move downwind from the refinery into North Santa Barbara County. These impacts, which are especially harmful to children, are another reason the CTA has opposed this project.

The Washington Physicians for Social Responsibility, in its *Position Paper on Crude Oil Transport and Storage*, indicates there are major health consequences to decreasing North County air quality. Their study found that increased air pollution, including diesel particulate matter:

- ☐ Accounts for the majority of air-toxic cancer risks in the Puget Sound area;
- ☐ Increased risks of cancers, particularly lung and breast cancer;
- ☐ Lower infant birth weight and increased risk of respiratory death in first year of life;
- ☐ Impaired pulmonary development and increased risk of lung disease in infants, children, and adolescents;
- ☐ Increased risk of neurodevelopmental and behavioral disorders in children;
- ☐ Increased risk of asthma diagnosis, exacerbation of symptoms, and asthma-related hospitalizations;
- ☐ Increased risks of acute cardiovascular and cerebrovascular events;
- ☐ Enhanced reactions to airborne allergens and immune system impairment; and
- ☐ Increased risks of acute and chronic obstructive lung disease, systemic inflammation, and overall risk of disease and mortality.

<https://drive.google.com/file/d/0BxmHEo6N5zkRMG5PMk5DTjVvbUk/view?pli=1>)

### PLEASE TAKE ACTION!

Let the San Luis Obispo County Planning Commission know you don't want them putting Santa Barbara County resources at risk by increasing oil train traffic. **Ask your own elected and appointed representatives at all levels of government to join the officials and entities below that have urged San Luis Obispo County to deny this Phillips 66 Rail Spur Project:**

- Santa Barbara County 3rd District Supervisor.
- Cities of Carpinteria, Goleta, Berkeley, Davis, Moorpark, Oakland, and San Luis Obispo.
- Counties of Ventura and Monterey.
- California Teachers Association, Ventura Unified School District, Berkeley Rent Stabilization Board, Hayward Unified School District and San Leandro School District.

This list is growing every week. Mesa Refinery Watch maintains a compilation of letters that have been approved and submitted at: <http://www.mesarefinerywatch.com/letters.html>.

**Send a letter of opposition to:** San Luis Obispo County Board of Supervisors and Planning Commission at: 1055 Monterey Street, San Luis Obispo, CA 93408

*Let's work together to reduce oil train traffic through Santa Barbara County by opposing the Phillips 66 Rail Spur Project. Keep explosive Canadian tar sands oil off the Union Pacific Coast Line.*

Send comments on this paper to its author, Jane Baxter at [jane.baxter@verizon.net](mailto:jane.baxter@verizon.net), and to SBCAN at [ken@sbcacn.org](mailto:ken@sbcacn.org).

## APPENDIX

### VIDEO AND POWERPOINT PRESENTATIONS:

1. The Mesa Refinery Watch website has extensive information updated on a regular basis, on the flaws with the Phillips 66 Rail Spur Project and an excellent PowerPoint presentation is available there. (<http://www.mesarefinerywatch.com>)
2. "A Danger on Rails," published on line by the New York Times. *This is a short documentary that warns about the dangers posed by trains that transport explosive oil across North America. Op-Docs, by Jon Bowermaster, April 21, 2015.* (<http://beniciaindependent.com/topics/emergency-readiness-response>)
3. "Boom: North America's Explosive Oil-By Rail Problem." *A comprehensive written report and documentary video.* (<http://stories.weather.com/boom>)

### ARTICLES, STUDIES, AND REPORTS

1. "Recent Train Accidents Call for a Rational, Risk-Based, Mitigation Approach," by Hinman Consulting Engineers, Inc. *An overview of Bay Area Impacts from the Phillips 66 Rail Spur project.* ([http://hce.com/Library/documents/New\\_Oil\\_Transportation\\_Risks.pdf](http://hce.com/Library/documents/New_Oil_Transportation_Risks.pdf))
2. "Runaway Risks; Oil Trains and the Government's Failure to Protect People, Wildlife and the Environment." *A good overview article by the Center for Biological Diversity.* ([http://www.biologicaldiversity.org/campaigns/oil\\_trains/pdfs/runaway\\_risks\\_web.pdf](http://www.biologicaldiversity.org/campaigns/oil_trains/pdfs/runaway_risks_web.pdf))
3. "It Could Happen Here: The Exploding Threat of Crude by Rail in California." *A good evaluation of California-specific oil by rail issues by the National Resources Defense Center.* (<http://www.nrdc.org/energy/ca-crude-oil-by-rail.asp>)
4. Fact Sheet "Health Concerns Associated with Oil Fires," by Minnesota Department of Health. <http://www.health.state.mn.us/divs/eh/emergency/chemical/oilfires.pdf>