

## Fire Pit Case – SCAQMD Summer 2013

**I. History of Fire Pits in Southern California**

Although the fire pits play such an important role in the region's history and culture, there surprisingly isn't much documentation of when having a fire at the beach was first developed into a recreational activity by the different cities along the coast. For most communities, the general consensus is the fire pits are over a half century old and are sporadically spread around the southland, with some beaches having hundreds and some having just a handful.<sup>1</sup> The place of the fire pits in surf culture seems to have received a boost in the 1950s/1960s with the growing popularity of surfing via icons such as Duke Kahanamoku and the music of the Beach Boys, pop duo Jan and Dean, and others. Upon further investigation into the city of Huntington Beach within Orange County, a picture from the city archives from 1940 shows a fire ring in the background<sup>2</sup>, and a city ordinance from 1944 discusses the legality of the fire rings usage for the first time<sup>3</sup>. Thus, it is safe to say the fire pits in Huntington Beach, which are at the center of this debate, have been present and in use for at least 73 years. In the neighboring city of Newport Beach, the fire rings were installed in the 1960s, giving them a life of at most 53 years<sup>4</sup>.

**II. Effects of Wood Smoke**

At the heart of the issue is the full effect of burning wood and its smoke on the adjacent beach residents of coastal cities. Numerous health studies have been instigated to research what many label a hidden toxin, and much of what has been found is consistent with others in the same field with the verdict being that "smoke from biomass burning are associated with adverse health effects."<sup>5</sup> The South Coast Air Quality Management District (SCAQMD or AQMD for short), in its own preliminary study of wood smoke burning at beaches, concluded that the smoke is a source of fine particulates, carcinogenic toxic pollutants, can aggravate asthma symptoms, and can negatively affect air quality both indoors and outdoors, especially in areas with large wildfires.<sup>6</sup> The people most at risk include children, the elderly, individuals with asthma and respiratory diseases, individuals with cardiovascular disease, pregnant women, and smokers.<sup>7</sup> A brochure from Environment and Human Health, Incorporated mentions how the particulate matter from wood smoke is so small that it is "not filtered out by the nose or upper respiratory system."<sup>8</sup> Instead, it is able to penetrate further into the body than other chemicals and can cause more damage. The measurements adopted to quantify the effects of wood smoke and other air pollutants are described as PM (particulate matter) with a corresponding number to reflect size: PM 2.5 represents particulate matter that is less than 2.5  $\mu\text{m}$  (fine PM) while PM 10 is less than 10  $\mu\text{m}$  (coarse PM).<sup>9</sup> PM 2.5 specifically is generated by "combustion processes, such as forest fires, agricultural dust, industrial combustion, and diesel engines."<sup>10</sup>

**Iia. Recent History of Wood Smoke Regulation in CA by the AQMD**

As a stipulation of the Clean Air Act, the Environmental Protection Agency (EPA) is required to set National Ambient Air Quality Standards (NAAQS) for "pollutants considered harmful to public health and the environment."<sup>11</sup> In 2012 the EPA decided to lower its existing standards for the amount of PM2.5 that should be in the air from 15  $\mu\text{g}/\text{m}^3$  to 12  $\mu\text{g}/\text{m}^3$  from its initial NAAQS in 1997, which in itself has been contested for lacking scientific credibility.<sup>12</sup> Regardless, the new standard of 12  $\mu\text{g}/\text{m}^3$  is defined as an annual mean averaged over three consecutive years.<sup>13</sup> The study of PM2.5 levels has also been taken up by the California Air Resources Board

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<sup>1</sup> Papagianis

<sup>2</sup> Epting, fire ring band overreach

<sup>3</sup> City Ordinance, in downloads folder

<sup>4</sup> <http://documents.coastal.ca.gov/reports/2013/3/W18b-3-2013.pdf> exhibit 11 page 4

<sup>5</sup> Ospital

<sup>6</sup> Air quality impacts... page 2

<sup>7</sup> Lipsett 8-10

<sup>8</sup> Wood smoke

<sup>9</sup> Enstrom, particulate matter

<sup>10</sup> *Ibid.*

<sup>11</sup> Air and Radiation, EPA

<sup>12</sup> Harris and Broun, p. 1

<sup>13</sup> Air and Radiation, EPA

(CARB) to lower PM emissions for diesel vehicles, and the epidemiology of it was used by the AQMD in 2012 for the development of an Air Quality Management Plan (AQMP) within the South Coast Air Basin (SCAB) to reduce PM and ozone levels.<sup>14</sup> The South Coast Air Basin is an area that includes Orange County along with the urban areas of Los Angeles, Riverside, and San Bernardino counties, and part of the reason the AQMP was created was to avoid thousands of premature deaths caused by PM2.5 within the region.<sup>15</sup> In fact, the CARB adopted Rule 445 in 2008 that would prohibit the use and sale of wood-burning devices in new developments in a PM reduction effort.<sup>16</sup> However, Dr. James Enstrom of the UCLA Department of Public Health notes that within the past two decades there has been “extensive criticism of PM2.5 epidemiology and its use for regulation of PM by the EPA, CARB, and AQMD” for a number of reasons, and in his own paper on the matter he concluded there is no link between PM levels and mortality of SCAB residents.<sup>17</sup> He further points to the shortcomings of the AQMD for not explicitly reporting on specific PM health impacts in the region as well.<sup>18</sup>

More recently, as of 3 May 2013, the AQMD proposed a new amendment to its Rule 444 regarding open burning, which states that beach burning would be fully prohibited. As defined by the AQMD, beach burning is:

*Any recreational, ceremonial, or open burning conducted in any public coastal area, marked by an accumulation of sand, stone, or gravel that has been deposited by the tide or ocean waves, including any adjacent areas used for beach access or recreation. For the purposes of this rule, beach burning does not include the use of charcoal or gaseous or liquid fuels,*<sup>19</sup>

and would be illegal beginning 1 Jan 2015 unless a motion was passed to make the date sooner. Although the planned vote on the amendment was scheduled to take place in early June 2013, it has currently been delayed to an unspecified date. The reason given by the AQMD for Rule 444, which includes waste, contraband, and agricultural burning to name a few, is to “minimize emissions and impacts...in order to protect public health and safety.”<sup>20</sup> If enacted, the new amendment would consequently provide jurisdiction over the entire SCAB. One reason the amendment has been proposed so recently instead of earlier could be because the AQMD is trying to meet federal standards that have a deadline of 2015 to be implemented.<sup>21</sup>

### III. Removal of Beach Fire Pits in Southern California

While the current antagonisms between the AQMD and Huntington Beach and Newport residents appear to be limited to just this year, in reality the issue of removing fire pits along the beach has been ongoing since 2008. For example, Newport Beach had been contemplating the idea of removing fire pits from its beaches but didn't act because of budget and internal constraints. The city again tried to get rid of the pits in March 2012 because of an incident in neighboring Huntington, but the California Coastal Commission reportedly refused to honor the application because the city had neither undertaken air quality studies nor assessed a plan for alternatives to complete removal.<sup>22</sup> After the application from Newport Beach was filed, the California Coastal Commission published a collection of letters, petition signers, and the application proceedings on its website, demonstrating the lengthiness of the whole discussion.<sup>23</sup> Despite the many complaints about the fire rings, the collection reflected a majority of residents wanting to keep the rings, even from 2008. San Diego similarly wanted to abolish the use of its fire pits, but ran into the same obstacle faced by Newport Beach (the city has gradually lowered the number of fire pits over the years from about 450 in the 1990s to about 186 in 2009<sup>24</sup>). Instead, the city calculated the costs of maintaining the pits, which have been met year to year by donors wishing to save them. As of early 2013, the cost has been once again met and the remaining fire pits are safe for another several months.<sup>25</sup>

<sup>14</sup>Enstrom, particulate matter 1.1 over 2 pages.

<sup>15</sup> Enstrom letter to Yates p. 1

<sup>16</sup> Rule 445 p. 1

<sup>17</sup> *Enstrom* particulate matter pdf Conclusions

<sup>18</sup> *Ibid.*, 2.3

<sup>19</sup> Rule 444 p.3

<sup>20</sup> *Ibid.* p. 1

<sup>21</sup> papagianis

<sup>22</sup> Brasuell, James

<sup>23</sup> <http://documents.coastal.ca.gov/reports/2013/3/W18b-3-2013.pdf>

<sup>24</sup> Archibold, Randal

<sup>25</sup> 2013 status: San Diego

\*\*\*\*\* how cite????

With regard to Huntington Beach, the story is a little different. Until 2013, there had not been as much public attention and focus on the issue of removing the fire pits because the fight was being carried out mainly by other cities themselves (i.e. Newport and San Diego). Although some residents had expressed their displeasure and fear of the fire pits and their environmental impacts, it is safe to say there was never an argument about them in Huntington until Newport Beach appealed to the AQMD to assist in removing the bonfires. Late March 2013 saw Surf City residents being pulled in to the debate as awareness of the looming ban increased, mostly because of a Los Angeles Times article and local newspaper columnists such as Chris Epting from the *Huntington Beach Independent* (increased local and national news attention would come later). In a column from 26 March, Epting introduced readers to the issue and alerted them to the presence of a petition while also quoting Huntington Beach mayor Connie Boardman as saying,

*“I am writing in strong opposition to the amendment of Rule 444 to add beaches to the list of prohibited areas for open fire burning. Doing so will diminish the passive and affordable recreational opportunities for millions and greatly impact our local economy.”*<sup>26</sup>

Afterwards, Epting continued to write on the growing debate, accusing the AQMD of not citing facts and turning the issue into a political one, adding pressure on the board to include more public input in the overall discussion, and mentioning that the mayor of Newport Beach acknowledged to Boardman that he endorsed the idea of letting his city be the ““smoke free alternative””<sup>27</sup>. Since the city first got wind of what was on the drawing board, there have been a few public meetings: a public consultation meeting on 28 March, one on 5 April, a full public hearing on 3 May, and another on 15 May. There were also scheduled meetings for 13 June and 14 June, ultimately followed by the vote on the ban on 12 July 2013.

Within the past month, there has been greater attention on the debate, with sources weighing in from the Los Angeles Times, the local CBS news station, and even the Wall Street Journal. In an article from 20 May 2013, Erica Phillips from the WSJ discussed the issue with an added statistic to the general health effect banter that has been continuous: she stated about 600,000 tourists (three times more people than the city’s own population) come to Huntington Beach each year just for the bonfires<sup>28</sup>, not including the total number of tourists to the area. The author also mentioned how local businesses sell ““s’mores packages”” to visitors and make profit, and how after the preliminary results from the AQMD monitoring stations were announced, many Huntington Beach residents fought against the findings.<sup>29</sup> Additionally, many elected officials from both political backgrounds in Huntington Beach and the surrounding cities have spoken out against the ban, including Huntington Beach Mayor Connie Boardman, Assemblymen Allan Mansoor and Travis Allen, Congressman Dana Rohrabacher, Santa Ana Mayor Miguel Pulido (also an AQMD board member), City Councilman Joe Shaw, and Senator Mimi Walters.

On 7 June 2013, local newspaper *The OC Register* printed an article that outlined a sudden turnaround of the AQMD’s position on the fire ring debate. In it, the author outlined concessions the air quality board was proposing **FINSIH FINISH FINISH FINISH and quote in analysis**. Despite this, opponents of the ban have not been pacified, and state lawmakers continued to go through with the unanimous passing of a the State Assembly Concurrent Resolution 52 (ACR 52) on 10 June, which decisively states “the [state] Legislature supports the protection of California’s beaches, access to those beaches, and important traditions that are integral to our culture and beach lifestyle, such as fire rings”.<sup>30</sup> The bill, introduced by Assemblyman Travis Allen, was cosigned by 59 other legislators not including the elected officials already mentioned above.<sup>31</sup>

Yet as it stands, the issue of removing the fire pits from Huntington Beach, Newport Beach, and other coastal cities in southern California is not solely reliant on the effects from wood smoke. Although during the summer afternoons and evenings the particulate matter from the fire pits does indeed have a major presence in beachside communities, the big picture also needs to be taken into consideration, namely comparisons between the pollution of wood smoke to the pollution from car traffic within the beach cities, overall seasonal and daily fluctuations of pollution effects on local populations, the pollutants caused by burning wood at the beach in the summer versus in residences during the winter, and a particular focus on the differing pollution levels of burning materials other than wood in the fire pits. To date, there has yet to be a comprehensive study that takes all these factors into account as per the debate about the fire pits.

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<sup>26</sup> Epting, 3-28 ban is overreach

<sup>27</sup> Epting, stand up to AQMD

<sup>28</sup> Phillips, WSJ

<sup>29</sup> *Ibid.*

<sup>30</sup> California, Assembly

<sup>31</sup> Cowan, jill – state lawmakers express support...

#### **IV. Costs of the Fire Pits, focus on Huntington**

As with any city-maintained and public good, the cost-benefit analysis always plays a role in decision making, even if it's never explicitly mentioned. The fire pits on Southern Californian beaches are no different. Community Relations Officer Laurie Frymire notes the monetary cost of upkeeping the fire pits comes in at around \$10,000 per year and adds that there is no explicit rule about what can and can't be burned<sup>32</sup>. In addition, the extent of the fire pit usage during the summer months easily generates large amounts of smoke, with a good portion of it coming from toxic sources because of the lack of enforcement. Thus, it is not uncommon to be walking the beach during a summer evening and gagging from the smoke because someone chose to burn wood pallets, trash, or even weed. Consequently, it is no surprise that many of the beachfront residents have complained about the smoke both in Huntington and Newport, especially since there is little enforcement. Those in opposition to the ban have claimed these residents should have realized the risks of living near the beach when they originally decided to move in, but the residents argue that the smoke has been getting worse over the years and is increasingly harmful. CITE from CCC document Other cons from the fire pits, albeit indirect, that should be considered include the traffic and congestion on the roads and in adjacent neighborhoods from the number of beachgoers, trash left over from tourists, etc. However, it would appear these cons would still be present even without fire pits.

#### **V. Benefits of the Fire Pits, focus on Huntington**

Despite the costs of maintenance, the fire pits have consistently brought in profits, at least in Huntington Beach. Possibly because of the sheer number of pits to begin with, the city makes an average of one million dollars annually from just parking fees alone<sup>33</sup>, which Frymire explains only represents the parking in the city beach (one-third of the total beach area) and doesn't include profit from the many parking meters around downtown, the parking structures, nor the RV parking areas. In addition, the \$1 million estimate doesn't include the parking from the state beaches (the remaining two-thirds of the beach area) which gives needed revenue to the state. With the 16.3 million visitors/tourists Huntington Beach receives each year on top of the local population of about 200,000<sup>34</sup> and the county's population of 3.09 million<sup>35</sup>, it's hard to ignore the boost in revenue in which the fire pits play a role. In that respect, one also has to consider all the businesses in downtown Huntington the neighboring communities/cities that benefit from the influx of tourists each year, especially during the Fourth of July (Huntington Beach has long been crowned with having the biggest Fourth of July parade west of the Mississippi River<sup>36</sup>) and the Surf City Open, an annual surfing competition hosted by big names such as Hurley, Nike and Vans. Both events by themselves draw upwards of one million people to the downtown and beach areas.

While the fire pits stand well on their own as a profit-generating recreation activity, it is hard to overlook the place they have in the culture of southern California and Huntington. For many people both inside California and outside, the imaginary beach day is always accompanied with the picture of making s'mores over a fire next to the water. It hasn't been measured, but the loss of profit that would follow the removal of the fire pits could possibly rise higher than city officials would like to allow, let alone the hotels and other businesses that sell those s'mores packets<sup>37</sup> and stake out fire pits for their customers<sup>38</sup>.

#### **VI. Analysis**

##### **VI-a. AQMD**

In its report from 15 May 2013 the AQMD referenced a chart showing the PM Health Guidance for varied PM2.5 levels in the environment, which was respectively cited from an EPA study in 2007 and a guide for public health officials for alerting the public to the effects from wildfires in wildfire-prone areas.<sup>39</sup> While the AQMD

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<sup>32</sup> Interview with Frymire

<sup>33</sup> Lovett, Ian

<sup>34</sup> City Information

<sup>35</sup> State and county quickfacts...

<sup>36</sup> Fletcher, Jaimee

<sup>37</sup> Phillips, WSJ

<sup>38</sup> Things to do in HB, CA

<sup>39</sup> Air Quality Impacts, page 4

quotes the EPA study as saying the 24 hour average for PM<sub>2.5</sub> should be 12µg/m<sup>3</sup>,<sup>40</sup> the study actually notes that “we have concluded that it is appropriate to retain the level of the annual standard for an AQI [air quality index] value of 50 (15 µg/m<sup>3</sup>).<sup>41</sup> It is only recently that the EPA has recommended lowering the AQI value to 12µg/m<sup>3</sup> (in 2012).<sup>42</sup> In addition, the AQMD uses a chart from the PM Health Guidance report from July 2008 with regards to recommended protective measures based on shorter term exposures.<sup>43</sup> It is important to realize that although the data shown in the chart and subsequently used by the AQMD is indeed reflective of the effects of wood smoke and specifically of PM<sub>10</sub> and PM<sub>2.5</sub>, the chart was made in a report (jointly between the EPA and various public health departments in the western US) that was focusing specifically on the costs of major wildfires to human health, not beach bonfires. Also, while the PM Health Guidance report stresses the “epidemiological evidence associating 24-hour PM<sub>2.5</sub> exposures with respiratory and cardiovascular morbidity and mortality”, it notes that the recommendations for the short term levels (1-3 hr and 8 hr averages) are mathematically derived and not “official AQI values,” while additionally acknowledging that,

*There are no directly relevant epidemiological or controlled human exposure studies that offer guidance in the selection of particulate matter levels with averaging times less than 24 hours, in part because studies of short-term effects of particles generally have not been conducted and in part because the toxicity of smoke is related to gaseous as well as particulate components.*<sup>44</sup>

It is further integral to this issue to observe how the AQMD has dealt with the situation in the past few months. Originally, the board did not publicize obtainment of scientific evidence to back up their amendment to Rule 444. Epting (*HB Independent*) attended a public consultation meeting 28 March and recorded the following:

*So for the record, I asked Tisopulos point blank, like Englebrecht, have you done specific data research in Huntington Beach, in advance of calling for this ban and would he share it soon? He fumbled a bit but then said, "Yes." I asked him to repeat it for the video record, with everyone in the room as a witness. And he did.*

*Moments later I stepped outside the hearing to take a phone call. In the lobby of the building I saw Barry Wallerstein, AQMD executive director who left our meeting early claiming he had another, which several of us felt odd. Do they not get how important this is to HB?*

*Anyway, I approached him with a question. Given how sudden and sweeping this imposed ban is, has AQMD done specific research in Huntington Beach to justify this ban? "No," he said.*

*I asked; how can you move ahead on a ban without doing any research? "We plan on doing it in Huntington Beach, but we haven't yet" he said. But with no evidence, what prompted the ban in the first place, I wondered? "We'd read some things that interested us," he said.*

*Then I told him that just minutes before; his co-chair said the exact opposite, on the record, for everyone to hear. And Wallerstein got one of those nervous looks that bureaucrats get when hit with an off-script fact. "Well, uhm, I'll have to talk to him about that." Then he hurried away.*<sup>45</sup>

Additionally, an AQMD representative was quoted as exclaiming from a later meeting that the smoke from beach fire pits was the equivalent of carpet bombing in Vietnam :

*“[William Burke, AQMD chairman] and board member Dennis Yates spoke about their experiences in Newport Beach, saying how the bonfires there reminded them of their time spent in Vietnam. Many in the room looked at each other, quite perplexed. Burke elaborated, saying that in a flyover of Newport Beach, it looked as if the area had been "carpet bombed" just like in Vietnam. Again, more surprised looks in the room as these two men continued to compare smoke situations from bonfires and the Fourth of July with the Vietnam War.”*<sup>46</sup>

Because of his remarks, Burke was later pressured to resign from his position on the California Coastal Commission, which he held simultaneously with the AQMD position, creating a “conflict of duties”<sup>47</sup>. A query about another AQMD board member Clark Parker was published 23 May 2013 in *The Independent*: in the article, the authors

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<sup>40</sup> *Ibid.*

<sup>41</sup> Revising the Air Quality Index...

<sup>42</sup> Regulatory Actions...

<sup>43</sup> Lipsett, p. 31

<sup>44</sup> *Ibid.* p. 27

<sup>45</sup> Epting, stand up to AQMD

<sup>46</sup> Epting, AQMD not listening to HB

<sup>47</sup> Dobruck, Jeremiah

follow up on Dr. Enstrom's assertion that Parker lied about his academic credentials in his biography. According to the article, Parker lists two doctorates from two separate universities that have been attacked as being diploma mills: "unaccredited, for-profit colleges accused of selling degrees in the 1970s and 1980s, according to an expert on nontraditional education and reports from that time".<sup>48</sup> Parker himself was not available for comment.

Numerous public health experts and local professors have become involved with the issue in recent years, including Dr. Jane Hall from California State University Fullerton and Dr. Robert Phalen from University of California Irvine. An environmental economist, Dr. Hall admits that "traffic is indeed a significant source of fine particles, both as direct emissions and secondary pollutants that form in the atmosphere". She also notes that while beach fire pits would "logically emit higher levels of particulate [than regulated wood stove burning]", regarding the overall concern of the issue, "I am not sure what to think."<sup>49</sup> On the other hand Dr. Phalen, an environmental toxicologist, offers a different perspective. He notes the AQMD's mission is to clean air and improve air quality, but doesn't personally believe the fire pits are a big danger to public health. He goes on to say:

*Also the AQMD has large resources that must be put to work to do something, otherwise their budgets would be threatened. So there is a potential conflict of interest; serving their own interests vs serving the public interests. I don't ascribe malicious intent to the AQMD, but I do not see the fire pit issue as worthy of attention.*

*To speculate further, the air current quality in California might be at a level that further "improvements" could lead to loss of the public's lung defenses. We already see increases in asthma, as a disease, as air quality has improved. Exposure to modest levels of air pollutants help to maintain defenses that prevent lung disease. This is analogous to the loss of immune competence that accompanies the trend for widespread overuse of antibiotic hand cleaners etc. Things, including the air can be too clean.*

*I recall the observations of cancer specialists that things like mental depression and loss of immune competence are the major causes of cancer, not the modern environment. We may be overly worried about small environmental exposures, and in the process interfering with important pleasures that sustain the quality of life and promote health.<sup>50</sup>*

Be that as it may, the purpose of the AQMD is "committed to protecting the health of residents"<sup>51</sup> and the board has indeed been triumphant in its reduction of harmful contaminants in the SCAB. Even if the problem at hand is something simple, the AQMD has a duty to protect the citizens of the SCAB and to make sure air quality doesn't put people's livelihoods at risk. Even the AQMD spokesman, Sam Atwood, hit the nail on the head:

*In the L.A Times last week, Sam Atwood, spokesman for the South Coast Air Quality Management District, said this: "It doesn't take a rocket scientist to know that smoke is unhealthy and contains many harmful pollutants — some of which can cause cancer. And it doesn't take a costly scientific study to tell you that dozens of these fires in close proximity create very unhealthy levels of smoke for anyone near them, and for residents downwind."<sup>52</sup>*

In his first sentence, Atwood is undoubtedly correct: one only has to observe the many wildfires prevalent in California to understand this. The second sentence also rings true: many people have had the experience of enjoying a fire either at the beach, at a barbeque, or in their backyard only to unwittingly succumb to the change of wind direction when the smoke is blown straight into their faces. However, what's at stake here is not simply recognizing that smoke is a problem for human health. Instead, it's Atwood's point that "it doesn't take a costly scientific study to tell you..." that smoke is harmful. Yes, common sense always plays a role in what SCAB residents do to protect their health. But when it comes to abolishing a cultural tradition that has been around for over sixty years in a city that didn't take issue with it in the first place and the main scientific board refers to common sense as its evidence, something is not right. If the AQMD board members had instigated a more thorough inquiry into what Newport Beach was dealing with, one would think they would have realized the necessity for accurate and long term measurements of PM2.5 levels near the beach to assess the actual impacts and how many people are affected before declaring they had evidence to support their claims.

Additionally, it is necessary to point out that although wood burning does indeed contribute to PM2.5 levels in the atmosphere, "the sources of PM2.5 include fuel combustion from automobiles, power plants, wood

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<sup>48</sup> Cowan and Lopez

<sup>49</sup> Email interview with Dr. Hall

<sup>50</sup> Email interview with Dr. Phalen

<sup>51</sup> South Coast AQMD

<sup>52</sup> Epting, banning fire rings = overreach

burning, industrial processes, and diesel powered vehicles such as buses and trucks”<sup>53</sup>. With the amount of traffic and power plants present in the SCAB, one would tend to ask why the AQMD is focusing so much on banning fire pits when on a comparison scale, the emissions from the fire pits don’t even match up to the traffic exhausts. Also, in a study done by Dr. Hall herself in 2008, the amount of pollution as per particulate matter costs the state \$28 billion a year, but what’s striking is a graph included in the study. Hall and her colleague point to the premature deaths and other health effects from particulate pollution, but when looking at how much of the population of the different counties is affected, there’s one blatant outlier: Orange County. According to the graph, only 15% of Orange County’s residents are exposed to particulate matter above the standard (or were, at the time of the report)<sup>54</sup>, compared with 65% of Riverside County’s and 75% of Los Angeles County’s own<sup>55</sup>. While in an ideological atmosphere the percentage should be zero at all locations, it’s hard to ignore the situation: the AQMD’s main fight currently is the removal of fire pits in a county that has the least amount of population exposed to bypassed standards yet is home to over 90% of the fire pits in the SCAB.

Other than that, while the AQMD has been pursuing different routes to implement the new standards set by the EPA in late 2012, it has rarely been mentioned that the new standards are defined as being an annual limit but averaged over three consecutive years.<sup>56</sup> Thus, it is safe to say that the AQMD scientifically cannot point to beach cities’ fire pits as evidence of toxicity when the board hasn’t obtained evidence on them specifically for even a year, let alone three consecutive ones.

#### **VI-b. The Case Itself**

While there is sufficient data and evidence from both sides of the argument as pertaining to Huntington Beach and other cities that don’t want to remove their fire pits, it is important to step back and observe everything from a wider perspective. Originally, the issue was completely local and sporadic, and did not become a widespread focus until the city of Newport Beach appealed to the AQMD in order to assist in the fire pit removals, since the California Coastal Commission had not helped. Newport residents hoped the AQMD could provide the data and alternatives that the CCC had noted as lacking in Newport’s proposal, and the AQMD decided to undertake the matter with the implicit stipulation that its jurisdiction would be felt over the entire SCAB. Most likely this was decided as an opportune case for the AQMD board members not only because of the recent standards imposed by the EPA in 2012, but also because as an air quality managing board, they have to implement additional federal standards by the year 2015 (which coincides with the year the fire pits ban would take effect). To them, it would seem that this case would kill two birds with one stone, as it were. The main discrepancy, though, is that based on recent reports and findings it would seem the AQMD did not have data on the objects of which they were going to fully support the removal. After this was made clear, the board did indeed set up monitoring stations, but independently admitted that the results from the stations are relatively new and inconclusive.<sup>57</sup>

The amount of backlash the AQMD has received for proposing the ban in the first place has seemed to surprise the board members: not only was there a huge protest from Huntington, but the case has been picked up by national newspapers and television stations. This scale to which the debate has come has resulted in enormous pressure on the AQMD, which most likely is the reason for their recent concessions as described in the *Orange County Register*<sup>58</sup>. Opponents to the ban have not given up yet, however, and neither have the elected officials as demonstrated by the state resolution passed on 10 June (see Section **III**).

#### **VI-c. Huntington Beach**

As part of this wider perspective, the scope of just what is at stake with this ban is additionally necessary to scrutinize. Many Huntington Beach residents have voiced concern over the fact that they are being forced to comply with a solution to a problem that for them doesn’t exist. They contend that if Newport Beach wants to get rid of their fire pits, then they should do so without having the same standard forced upon the entire SCAB, and there is a hefty reasoning behind this claim. Newport Beach has about sixty fire pits scattered between the Balboa Island and

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<sup>53</sup> PM2.5: Objectives and History

<sup>54</sup> Jacquot

<sup>55</sup> Sahagun

<sup>56</sup> Air and Radiation, EPA

<sup>57</sup> Beach Bonfire Ban?

<sup>58</sup> ARTICLE FROM LIBRARY, Register 7 June

Corona Del Mar communities. Huntington Beach, on the other hand, contains 465 fire pits within its eight miles of beach – 63% of all the fire pits found in Orange County (Newport, via the same scale, represents 0.08 %).<sup>59</sup> In terms of the scale of profit from both local and tourist investment, the situation in Huntington is unrivaled anywhere in Orange County, let alone Newport.

Huntington differs from Newport in more than just opinion on the fire pits. Whereas all three of the beaches in Huntington are owned by either the state park or city park system and are separated from residences by distances stretching about 1000 ft at the very least (5000 ft at the widest), Newport's beaches are not within a park system and the fire pits are less than 200 ft from most homes. The communities of Corona del Mar and Balboa Island also have a completely different geography from Huntington: instead of two wetlands and a wide downtown area, Newport's communities of Balboa and Corona are squeezed onto an island and along the tops of steep bluffs, respectively, right next to the water. Thus, although in Huntington there is much more room for wind dispersal of smoke particles to take place (there is almost always a wind coming off the ocean), the people of Newport don't have that luxury since they are right next to the particles' sources.

#### **VI-d. PM2.5 and Different Burning Materials**

Perhaps the biggest point at the heart of the issue is the AQMD's insistence on the toxicity of wood smoke via PM2.5 levels, yet what isn't included in their evaluation is the consideration of what else is being burned at the beaches other than wood, which could alter the PM2.5 findings. After spending just a couple summer evenings in Huntington on the beach, it is easy to distinguish which fire pit is burning wood, charcoal, or something else entirely, be it trash, newspapers, weed, or treated wood. For the most part it is not illogical to postulate the fire pits would be less of a nuisance and healthier to nearby residences if there is proper enforcement of what is being burned, yet the question of maintaining such enforcement has some city officials raising eyebrows. **QUOTE SOMEBODY?** The regulation would be added to the alcohol crackdown on the beaches, and especially during the summer months the question of who would be the enforcers is raised. Hiring more beach workers seems like the easiest option, but one has to remember the current economic situation of both the state and city park system. After that, the parking fee collectors could also be the ones who make sure what's being brought in is safe, but the layout of the beach entryways during high traffic times makes this plan not entirely feasible. Plus, visitors can easily have different actions than promises if there isn't constant enforcement on the beach itself.

The AQMD has been focusing on reducing PM2.5 levels in the SCAB, but it's interesting to note that in a study from the Center for Disease Control and Prevention, Orange County was safely within the PM2.5 standard at the time but not within the standard for ozone<sup>60</sup>, whose major sources include industrial facilities and exhaust from vehicles, not beach fire pits.<sup>61</sup> One major aspect of the research the AQMD has thus far carried out is the thoroughness of the PM2.5 monitoring stations. Since the board started the research only after they announced the ban, (and because they have not said otherwise even though under pressure), it would seem there is no control for this experiment: there has not been research done on beach PM2.5 levels when there aren't any beach fires in order to see how much PM2.5 is present in the first place. In addition, the current monitoring stations do not have the capability to analyze the measured PM2.5 and distinguish its origins, whether from the fires or from the constant traffic on Pacific Coast Highway or the neighborhood streets. It has been said this technology is indeed available, but it is much more expensive to maintain.

## **VII. Conclusion**

- let Newport get rid of their own fire pits: no force on everyone else.
- control what's being burned
- have certain wood that is sold that can be burned
- look at big picture

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<sup>59</sup> Papagianis

<sup>60</sup> Yip, Fuyuen

<sup>61</sup> Ground level ozone

- get better PM2.5 data for short term exposure
- summarize in conclusion the scale of Huntington vs. scale of Newport and refer back to these points as final recommendations based on what's happened

### **USE THESE IN ANALYSIS**

[http://www.arb.ca.gov/aqmis2/graph.php?x=33&y=10&rcheck0=Max.+Daily%2C50.2%2C28.0%2C19.9%2C29.4%2C26.2%2C21.4%2C23.7%2C20.2%2C22.8%2C24.4%2C31.6%2C54.0&rcheck1=Min.+Daily%2C6.1%2C7.5%2C4.0%2C2.6%2C4.9%2C6.7%2C5.4%2C4.6%2C7.3%2C5.2%2C5.7%2C6.1&location\\_name=Orange+County+&rows=2&param=PM25&units=001&statistic=DAVG&year=2012&mon=5&day=29&county\\_name=30-Orange&basin=-AIR+BASIN-&latitude=-PART+OF+STATE-&report=AREA1YR&order=basin%2Ccounty\\_name%2Cs.name&submit=Retrieve+Data&ptype=aqd&o3switch=new&hours=all](http://www.arb.ca.gov/aqmis2/graph.php?x=33&y=10&rcheck0=Max.+Daily%2C50.2%2C28.0%2C19.9%2C29.4%2C26.2%2C21.4%2C23.7%2C20.2%2C22.8%2C24.4%2C31.6%2C54.0&rcheck1=Min.+Daily%2C6.1%2C7.5%2C4.0%2C2.6%2C4.9%2C6.7%2C5.4%2C4.6%2C7.3%2C5.2%2C5.7%2C6.1&location_name=Orange+County+&rows=2&param=PM25&units=001&statistic=DAVG&year=2012&mon=5&day=29&county_name=30-Orange&basin=-AIR+BASIN-&latitude=-PART+OF+STATE-&report=AREA1YR&order=basin%2Ccounty_name%2Cs.name&submit=Retrieve+Data&ptype=aqd&o3switch=new&hours=all)

<http://scientificintegrityinstitute.org/OCRTotal062012.pdf>

<http://documents.coastal.ca.gov/reports/2013/3/W18b-3-2013.pdf>

( letters for and against the ban, along with petition signers and comments from 2012)

- history of bonfire pits in Huntington and southern California from LA county to San Diego county
  - i. focus in Huntington and Newport
- benefits from fire pits
  - i. tourist revenue, part of culture, overall business to beach cities
- costs from fire pits
  - i. what's being burned isn't strictly enforced, no limit to burning, particulate matter from what's being burned, traffic to beach areas, effects on nearby residences
- cross comparison to see what effects would still be in place even if the fire pits weren't there; question of whether those who bought houses at the beach in the first place should have the right to complain about the smoke if it was their decision to buy beach houses knowing what the situation was.
- actual effects from burning different materials

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