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**Subject:** April 30th Oceano Dunes SVRA APCD Hearing Regarding Dust on the Mesa  
**Date:** Saturday, April 21, 2018 1:48:04 PM

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I would like to submit this email to the April 30<sup>th</sup> Air Pollutions Control District (APCD) hearing regarding the dust on the Nipomo Mesa.

The recent release of the SCRIPPs report identified marine biological material as being a significant contributing source of PM 2.5 and PM 10 particulates. These particulates have been shown to travel from the ocean in-land and be found in the same air monitors that the APCD uses to measure dust particles. These natural particulates travel from the sea spray through the air in the same fashion as the salt particles.

This got me thinking, what else could be contributing particles. I have been doing some research and discovered other sources that put particulates in the water right in front of the Oceano Dunes State Vehicular Recreation Area (ODSVRA).

Unfortunately none of these other sources have been reviewed or even mentioned by the APCD. This letter is meant to highlight other potential sources of particulates that are blown in-land across the ODSVRA.

The wind map below (figure 1) was found on the internet, and it highlights the predominant Northwest Winds coming across the ocean in front of the ODSVRA. The red area in the ocean signifies a higher wind velocity. This map also shows that the area the APCD looked at (Morro Bay & Grover Beach) during the Phase 2 study is not representative of the conditions in front of the ODSVRA.

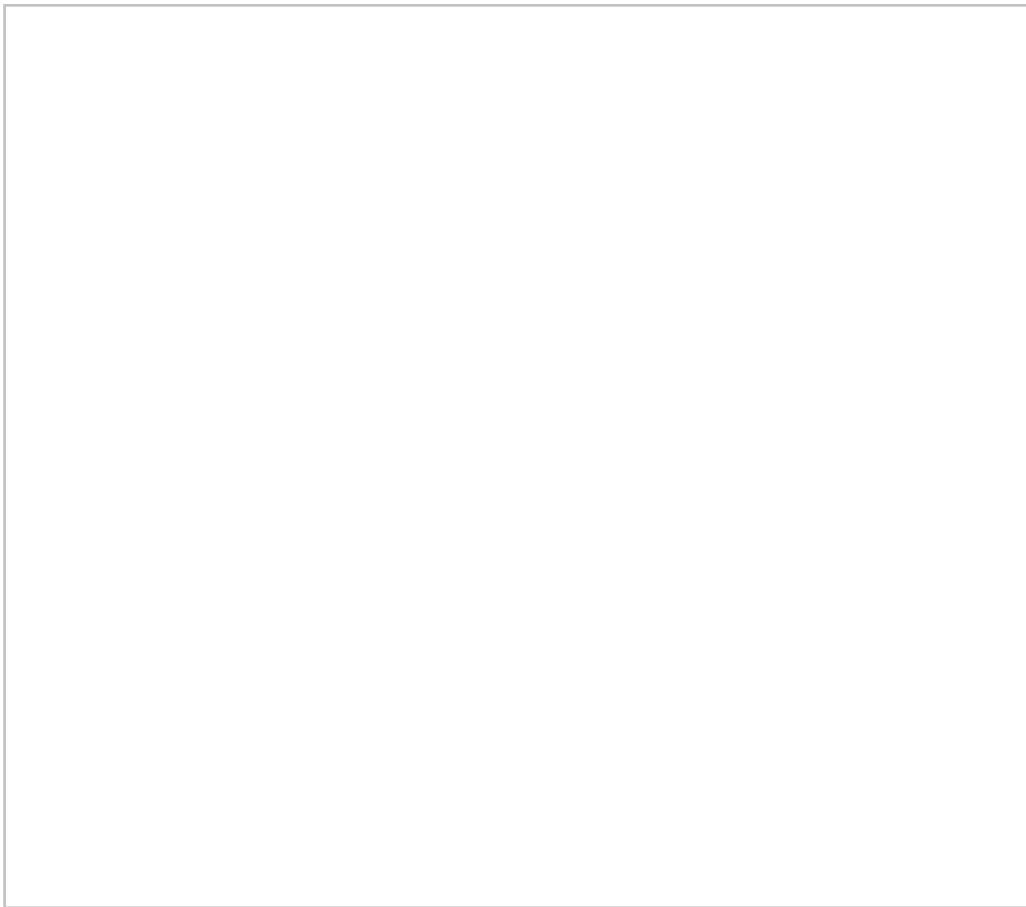


Figure 1 – This wind map identifies high velocity wind area in red and APCD study areas.

Upwind of the high velocity wind area is another source that has not been properly reviewed as a potential source of particulates. The Diablo Canyon Nuclear Power Plant discharges 2.7 Billion Gallons Per Day (Picture 1) of a combination of warm Once Through Cooling (OTC) water mixed with brine from the Desalination plant that contains “entrainment” of fish, larvae, plankton and other items sucked into the reactor cooling and desalination plants.



Picture 1 – Diablo Nuclear Power plant and the ODSVRA in the background (top right).

Numerous studies conducted of the Diablo Canyon OTC outfall shows a large “thermal plume” in the water (Figure 2) in the red high velocity wind area that is right in front of the ODSVRA.

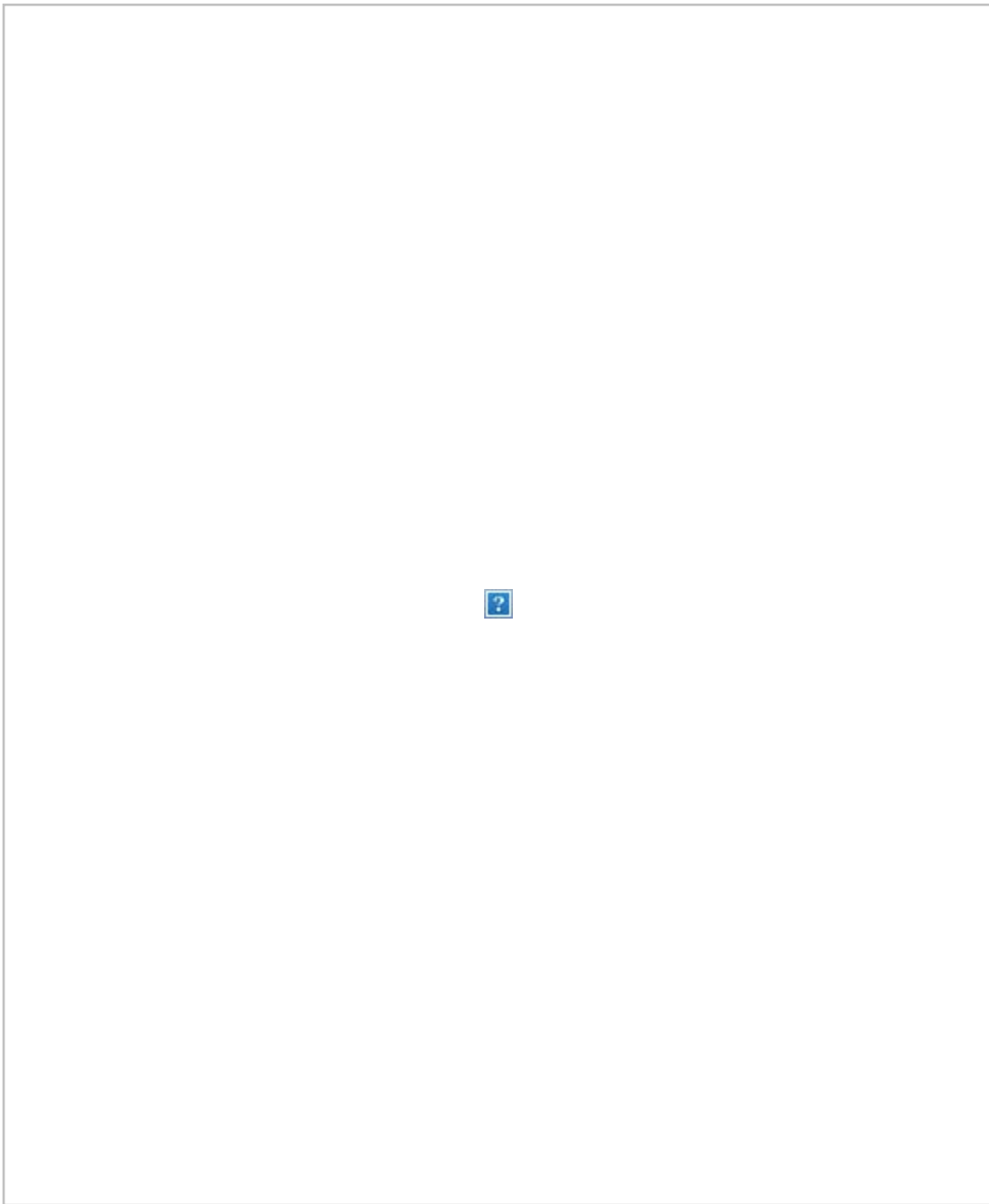


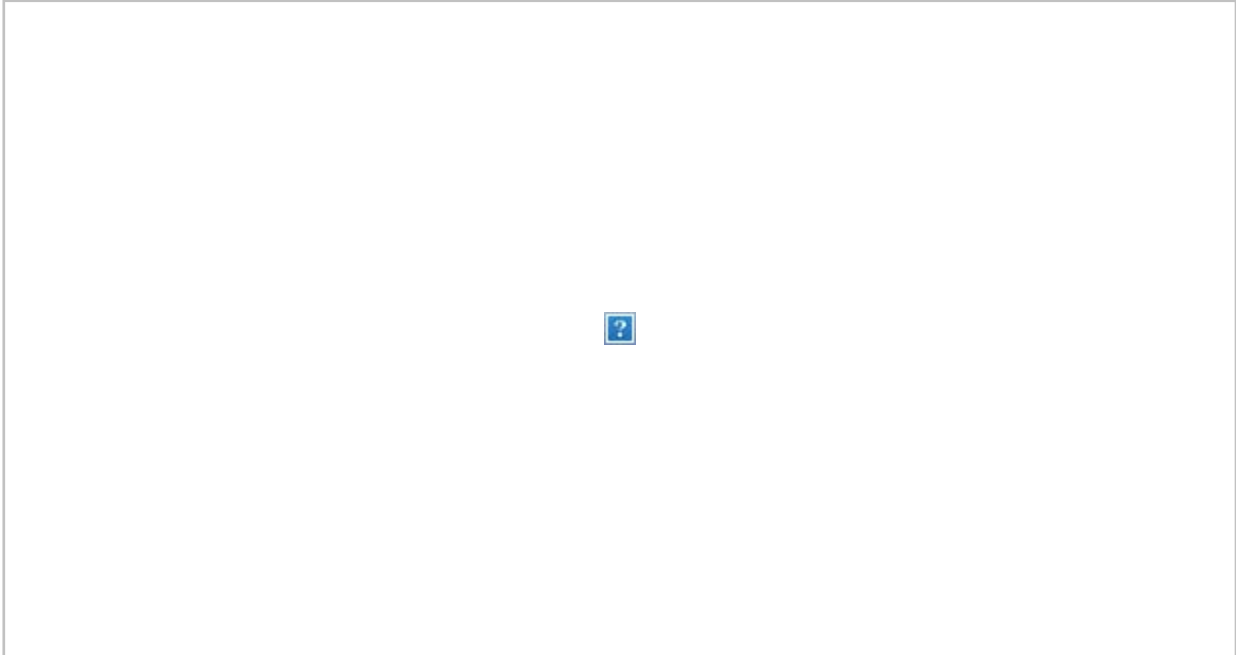
Figure 2 – Large thermal plume of Diablo Canyon discharge in front of ODSVRA

“the surface area of the offshore plume (seaward of Diablo Rock) was largest (1500-2000 acres) when the tide level was ebbing towards mean sea level and smallest (500-700 acres) during low tide conditions. **During high tide conditions the plume covered an area about 700-1200 acres.**”

<https://www.nrc.gov/docs/ML1116/ML11166A151.pdf>

***The thermal plume is roughly the size of the ODSVRA.***

Diablo Canyon Nuclear Power Plant has the largest desalination plant on the west coast. The desalination plant sucks in ocean water and then removes all impurities to produce clean water. All the impurities (salt and other items such as impingement and entrainment). The marine impacts from desalination “are not well understood” (see Picture 2 below). “In an average year, **Diablo Canyon entrains 1.8 billion fish and fish larvae and impinges about 400 fish and one large marine animal.**”



Picture 2 – Desalination Issues and the Diablo Canyon Impact

The SCRIPPs data proves that particles can blow from the ocean to in-land particulate monitors the same as salt. Marine biological material can be natural like plankton blooms or potentially from the desalination plant the sends its marine brine out to the OTC outfalls to form a 1,000+ acre thermal plume in front of the high velocity wind patterns in front of the ODSVRA.

The APCD Phase 2 study (Figure 3) identified the same wind patterns, however ***never bothered to look into the ocean's contribution*** to the particulate problems being measured in-land.

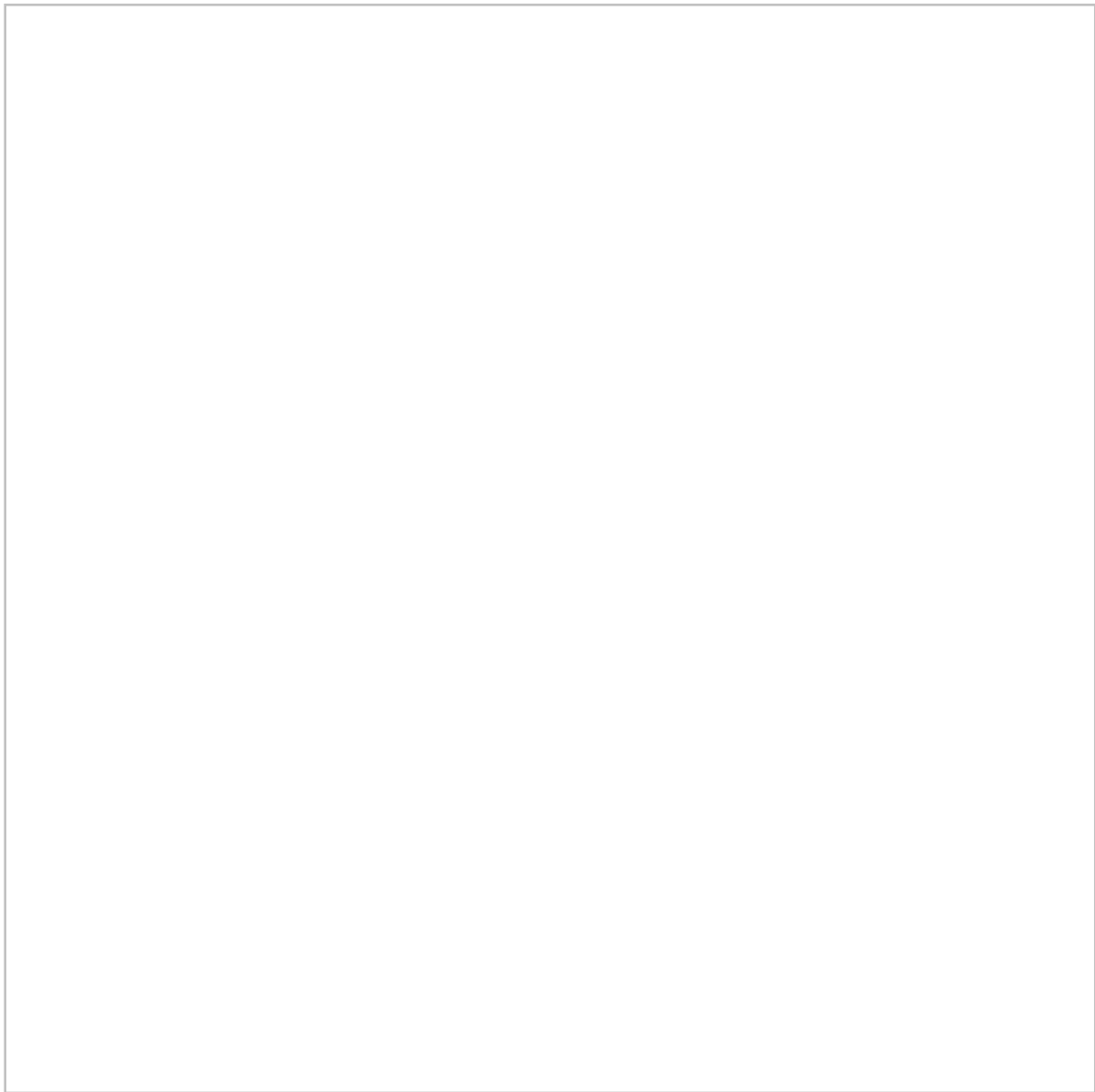


Figure 3 – APCD Phase 2 study showing supporting wind patterns.

I am concerned that the abatement hearing process is not reviewing all the information, mostly because ***all of the information is not known*** as I have documented above. Until all the particulate sources are known it would be ***irresponsible and not in the public interest*** for abatement proceedings to take place.

I am requesting that a comprehensive study be performed to **identify and quantify** all sources of particulates being recorded at the Nipomo Mesa ***before any further acreage be closed*** at the ODSVRA. It is paramount we know the whole inventory of emitters before making any knee jerk reactions.

Sincerely,

Stasha Tiller

