

Dunes, Dust and Justice

Yes, the off-road vehicles are still the problem

On March 18, 2021, the California Coastal Commission, after decades of [trying](#) and [failing](#) to regulate, moderate and mitigate the environmentally indefensible practice of allowing off-highway vehicles (OHVs) to rip up a coastal dunes complex, habitat for a multitude of state- and federally-protected species, finally told the Oceano Dunes State Vehicular Recreation Area (ODSVRA) its vehicular recreation days were numbered.

Specifically, the all-terrain vehicles have to be gone by Jan. 1, 2024, with a corresponding expansion of beach car camping and gentler beach activities such as walking and swimming, hiking, biking, horseback riding and birdwatching.

This will “enable the Commission to partner with State Parks, the local community, and visitors to the area to reimagine the Park operating in a more environmentally sustainable and legally consistent way” -- i.e. without degrading dune habitat, harming native species including snowy plovers, and causing air quality, environmental justice, and public health issues for low-income communities.



Photo by Cynthia Replogle

Before the ink was dry on that decision, the off-road lobby began raining down a throw-everything-at-the-wall cascade of lawsuits on the Commission pertaining to every conceivable Dunes-related issue, all making a multitude of legal arguments against the Commission’s order.

The arguments in one of those lawsuits (which, for purposes of clarity, let’s refer to as *Off-roaders vs. Air*), focused on the permits issued for dust control measures on the Dunes, which have reduced the dust pollution that is kicked up by OHVs and dropped into the lungs of the residents of the Nipomo Mesa and Guadalupe. This has also reduced the riding area by 130

acres, the amount of formerly denuded dunes that have been revegetated to implement those dust control measures.

The lawsuit was a rag-tag collection of legal parsings on the subject of administrative authority and abuse of discretion that only a lawyer could love, but the judge did not. On March 21, [a San Luis Obispo Superior Court ruling](#) found that no authority was overstepped, no discretion had been abused, and the dust control measures and permits issued for them are legal.

And that was that. Except, of course, it's not.

For 13 years, the off-road lobby has been attacking the 2010 South County Phase 2 Particulate Study conducted by the San Luis Obispo Air Pollution Control District (SLOAPCD) and the science behind its conclusion about the hazardous dust, aka particulate matter (PM), blowing off the ODSVRA:

"The major findings resulting from detailed analysis of the diverse and comprehensive data sets generated during the Phase 1 and Phase 2 South County PM Studies clearly lead to a definitive conclusion: OHV activity in the SVRA is a major contributing factor to the high PM concentrations observed on the Nipomo Mesa."

In the decade-plus since, as with tobacco companies when it was found that smoking causes cancer, all of the off-roaders' arguments have been in service to one overriding imperative: This must not be allowed to be true.

Lately, the off-roaders have seized upon reports from the Scripps Institution of Oceanography (SIO) that claim the majority of dust pollution from the dunes occurs naturally and only a small amount can be attributed to vehicle disturbance.

In response, the Scientific Advisory Group (SAG) to the SLOAPCD (consisting of internationally recognized scientists, engineers and professionals from universities, government, and industry who are experts in the study of wind transport and deposition, coastal dune development and regeneration, and vegetation of coastal dunes) has released the report "[Oceano Dunes: State of the Science.](#)" It is a long, generally technical read. But portions are accessible to the layperson, and because many laypersons may have vaguely heard that the APCD's dust studies have been refuted and the OHVs may not be the problem at Oceano Dunes after all, the generally accessible portions of that report are worth reproducing at some length.

The report begins by acknowledging the political reality: "Though research in sandy environments strongly suggests that undisturbed and/or vegetated surfaces are substantially less emissive than surfaces subjected to the physical impact of vehicle activity, some members of the rider community have pushed for a series of studies seeking to demonstrate that vehicle activity has only a small (or negligible) impact on particulate matter dust emissions from the ODSVRA."

The SAG report notes that those Scripps studies based their conclusions on samples of mineral dust particulate matter (PM) obtained from dust filters at the Dunes.

In sum, the Scripps study's problems lie in "three major aspects of this report: (1) its treatment of health and legal imperatives, (2) its assessment of the effects of vehicles on PM emissions, and

(3) the inadequate justification provided for key analyses and interpretations. A review by SLOAPCD also noted significant issues with PM10 sampling methods”

At the root of the problematic analyses and interpretations: Particulate matter pollution comes in two categories: 2.5 micrometers or less in diameter (PM2.5), and between 2.5 and 10 micrometers in diameter (PM10). The dust problem at the Oceano Dunes is primarily a PM10 problem, and that’s what State Parks was ordered to reduce in a Stipulated Order of Abatement (SOA). The SAG report notes the problems Scripps ran into due to “the use of the PM2.5 standard...instead of the PM10 standard specified in the SOA, as well as the methodology used to determine particle composition” (i.e. the Scripps report, in claiming that most of the dust particles don’t come from the dunes, “does not consider the actual mineralogy of ODSVRA dust.”)

The SAG report puts it as politely as possible:

“Collection strategies to quantify the mass concentration and the chemical constituents of the particles of dust or other particulate matter emitted from an area are well understood and are, in some cases, specified by State and Federal regulations. Deviation from these standardized collection strategies should be resisted. Where the SOA spells out the kind of air quality (i.e., size of PM) that is being sought under its terms, these goals should be adhered to without distraction.”

But there’s more. In both detective work and scientific research, few things support a conclusion more definitively than independent streams of evidence; different phenomena that lead to the same conclusion, like pieces of a jigsaw puzzle locking together.

So questionable sampling methods and faulty assumptions aside, if the dust caused by vehicle activity at the Dunes really is a negligible component of the total, then dust control measures specifically designed to reduce dust emitted from the riding area of the dunes should reduce only a negligible amount of dust.

On that point, the Scientific Advisory Group would like you to meet the Desert Research Institute, whose report “presents strong evidence, based on years of data collection, supporting the current understanding of the effect of vehicles,” and whose analysis has “showed that there has been a reduction in the TPM10:Total Wind Power Density ratio over time as an increasing number of dust mitigation treatments have been installed, suggesting an overall reduction in PM10 emissivity.”

In other words, since those mitigation treatments have been installed, there has been a 33.5% reduction in emissions year over year, a strong indicator that the assumptions those treatments are based on are correct, and the challenges to them over more than a decade are not. Also, taking PM10 concentrations measured at the air monitor in the area subject to vehicular impacts and comparing them to PM10 measurements at the undisturbed Oso Flaco monitoring site provides “further evidence for air quality improvements resulting from dust mitigation efforts.”

The SAG report concludes:

“The SAG and the SLOAPCD should clearly articulate standards of analysis consistent with State and Federal regulatory guidance, and firmly reject other strategies and methodologies that may be suggested or demanded by others. Having such regulatory guidance is an important foundation for this discussion and should be used rigorously.”

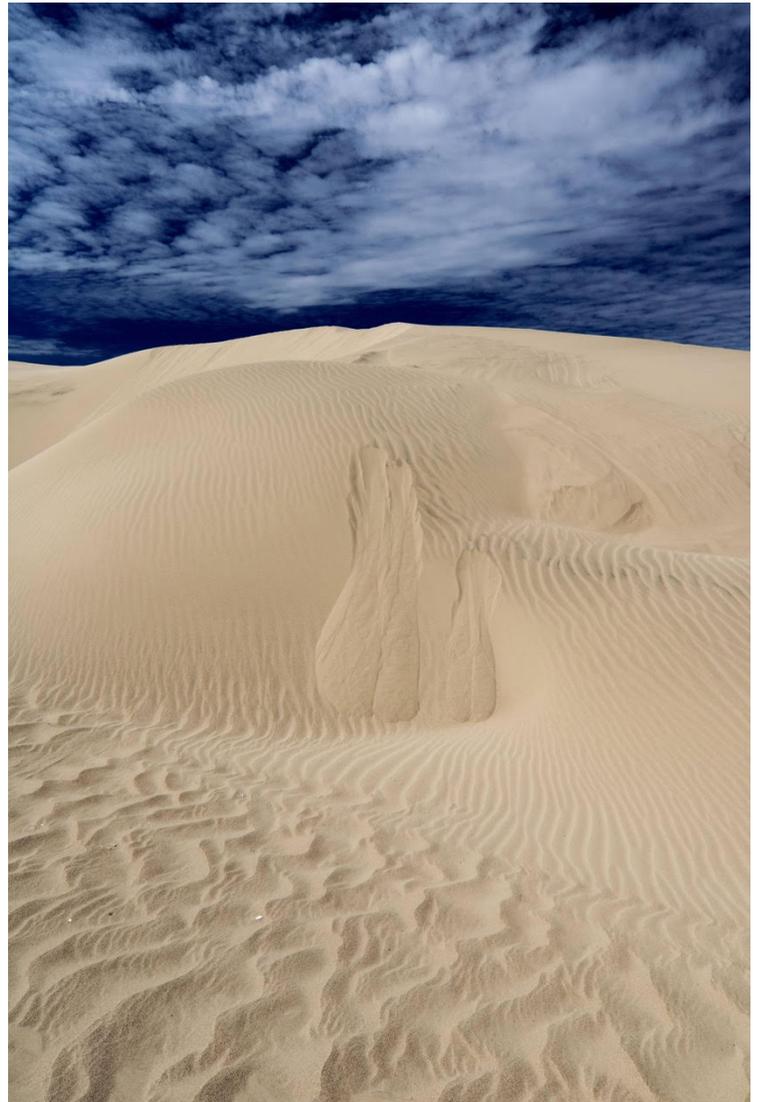
That’s the gist of the SAG report’s 111 fact-packed pages.

So, of course, when they read that, the off-road lobby finally threw in the towel after 13 years of relentlessly trying and failing to discredit the findings of the SLO County Air Pollution Control District’s study and dust abatement order. Right?

In a word, no.

After attending a recent Off Highway Vehicles Commission meeting, an off-roader took to Facebook and reported that “the Desert Research Institute...threw shade on the Scripps Report because it did not fit their closure narrative and insinuated that in upcoming SAG meetings their non-peer reviewed study [sic] would be used and the Scripps Report tossed in the round file.”

(And if you didn’t grasp the import of the “sic” we inserted after “non-peer reviewed study,” you may wish to peruse [the abstract of the Desert Research Institute’s study](#). “The role of off-highway vehicle activity in augmenting dust emissions at the Oceano Dunes State Vehicular Recreation Area, Oceano, CA,” as published in the peer-reviewed journal *Atmospheric Environment X*.)



Oceano Dunes, March 28, mid-morning, by Karl Kempton

The misinformed gentleman concluded that exposing the mistakes of the Scripps study constituted “acknowledgement by DRI presenters they were running a covert Political Operation...a political battle waged by anti-OHV regulators who used faux science claims to support their narrative of toxic dust from OHVs using the sand dunes.” Then he damned State Parks for signing “agreements with the SLOAPCD to implement dune revegetation projects and other restrictions that eventually will eliminate the open sand dunes and spell the end of OHV use at

Oceano Dunes,” all presented under the all-caps headline: “POLITICAL OPERATION AT OCEANO EXPOSED PROMPTING DIRE WARNING” (from him).

Or as the Scientific Advisory Group put it: “Because efforts to control emissions of PM10 from the ODSVRA have direct consequences for vehicle use in the dunes, it is not surprising that the determination of what is emitted from that area, and how much of it, is controversial.”

The real (non-political, non-covert, non-faux) history is summarized in [this handy flowchart](#) of nuisance lawsuits and repeated failures by State Parks to comply with dust abatement measures.

Meanwhile, the big enchilada of all the off-road lobby’s lawsuits against the Coastal Commission is still awaiting its day in court: The effort to strike down the Commission’s 2021 order to remove the vehicles from the Dunes by Jan. 1, 2024. That lawsuit is another welter of administrative procedural objections and claims of abuse of discretion, all in service to the argument that the Coastal Commission should not be allowed to do its job of protecting the coastal resources that belong to the people of California if doing so would harsh someone’s buzz.

Whatever verdict comes down, it will surely be appealed. And, as has been the case for the last thirty years, the Sierra Club will be in that fight.



photo by Cynthia Replogle