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Th23b

Prepared September 13, 2017 for September 14, 2017 Hearing

To: Commissioners and Interested Persons

From: Susan Craig, Central Coast District Manager

Subject: **Additional hearing materials for Th23b**
CDP Application No. 3-12-050 (CA Parks and Recreation ODSVRA Dust Control)

Where checked in the boxes below, this package includes additional materials related to the above-referenced hearing item as follows:

☐ Staff report addendum

☒ Additional correspondence received in the time since the staff report was distributed

☐ Additional ex parte disclosures received in the time since the staff report was distributed

☐ Other.

DAVID G. VALADAO
21ST DISTRICT, CALIFORNIA

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UNITED STATES
HOUSE OF REPRESENTATIVES

COMMITTEE ON APPROPRIATIONS
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SUBCOMMITTEE ON TRANSPORTATION, HOUSING, AND URBAN DEVELOPMENT
SUBCOMMITTEE ON MILITARY CONSTRUCTION, VETERANS AFFAIRS

September 12, 2017

By Email

Kevin Kahn
District Supervisor
Central Coast District Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

Re: Commission Agenda Item 23b (September 14, 2017); Application No. 3-12-050 (California Department of Parks and Recreation ODSVRA Dust Control, Grover Beach & Oceano, San Luis Obispo Co.)

Dear Mr. Kahn:

I understand that the California Coastal Commission has set a hearing on September 14, 2017, pertaining to the application of the California Department of Parks and Recreation for a permit to install certain dust control measures at Oceano Dunes SVRA, and that the Commission staff has proposed expanding those measures.

A report by Dr. Rob Roy Ramey indicates that the proposed dust measures will be immediately adjacent to, or actually in, critical habitat for the western snowy plover.

I have attached a recent email correspondence between my staff and Mr. Todd Willens, the Assistant Deputy Secretary and Acting Assistant Secretary for Fish and Wildlife and Parks for the U.S. Department of Interior. He states that the U.S. Fish and Wildlife Service is examining potential impacts of the dust control measures on the western snowy plover and other species as part of a habitat conservation planning process. The Fish and Wildlife Service will be issuing a Notice of Intent in the Federal Register shortly.

I therefore request that the Commission postpone approval of any permit for these measures unless and until the Fish and Wildlife Service completes the habitat conservation plan process in order to ascertain the full extent of impacts to the plover and its critical habitat.

Sincerely,

David G. Valadao
Member of Congress

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Renteria, Andrew

From: Todd Willens <todd_willens@ios.doi.gov>
Sent: Monday, September 11, 2017 7:39 PM
To: Renteria, Andrew
Subject: Re: Oceano Dunes

Andrew,

Thank you for the email. I have confirmed with FWS that they will examine all issues that are relevant to potential impacts to the HCP, including the state's dust control measures. FWS also informed me that the NOI should be made public shortly.

Thank you for the opportunity to be responsive to your questions.

Todd Willens
Assistant Deputy Secretary
Acting Assistant Secretary for Fish and Wildlife and Parks
U.S. Department of the Interior
1849 C Street, NW - MIB Room 6116
Washington, DC 20240

On Sep 11, 2017, at 4:21 PM, Renteria, Andrew <Andrew.Renteria@mail.house.gov> wrote:

> Hi Todd,
>
> My name is Andrew Renteria with Congressman David G. Valadao's Office. I know you and I were playing phone tag this past week, so I thought it might be easier for me to send you an email.
>
> Our office has learned that the U.S. Fish and Wildlife Service and the California Department of Parks are in the process of developing a section 10 habitat conservation plan for Oceano Dunes SVRA. Last month we sent a biological analysis from Rob Roy Ramey that finds that new large vegetation islands being proposed by State Parks as dust control measures at the SVRA would be immediately adjacent to critical habitat for the western snowy plover, and that the vegetation would provide cover for predators of the plover (coyote, red fox, etc.), resulting in greater predation and other adverse indirect effects. The Congressman would like to confirm that FWS plans to study potential impacts of these large vegetation islands on the listed plover. Specifically, the Congressman assumes that FWS will make clear in its upcoming environmental studies that it will evaluate this issue.
>
> We are particularly concerned because we have just learned that the Coastal Commission is proposing to expand the dust control measures into areas that have been designated critical habitat for the plover, and is planning to authorize development at a hearing on September 14, 2017.
>
> We therefore request confirmation that FWS intends to examine this issue in its upcoming HCP and that the HCP NOI will be issued soon.
>
> Thank you in advance,
>
> **Andrew Renteria**
> Legislative Assistant
> Rep. David G. Valadao (CA-21)

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Th23b

Prepared September 12, 2017 for September 14, 2017 Hearing

To: Commissioners and Interested Persons

From: Susan Craig, Central Coast District Manager

Subject: **Additional hearing materials for Th23b**
CDP Application No. 3-12-050 (CA Parks and Recreation ODSVRA Dust Control)

Where checked in the boxes below, this package includes additional materials related to the above-referenced hearing item as follows:

- ☐ Staff report addendum
- ☒ Additional correspondence received in the time since the staff report was distributed
- ☐ Additional ex parte disclosures received in the time since the staff report was distributed
- ☐ Other.

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September 11, 2017

By Email

Kevin Kahn
District Supervisor
Central Coast District Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

Re: First Supplemental Comments of Friends of Oceano Dunes Re Commission Agenda Item 23b (September 14, 2017); Application No. 3-12-050 (California Department of Parks and Recreation ODSVRA Dust Control, Grover Beach & Oceano, San Luis Obispo Co.)

Dear Mr. Kahn:

This firm represents Friends of Oceano Dunes, a California nonprofit watchdog association, which represents approximately 28,000 users of Oceano Dunes SVRA ("Friends").

Friends strongly objects to the issuance of the CDP on the grounds that the Commission's action exceeds its jurisdiction, is contrary to law, is arbitrary and capricious, is a prejudicial abuse of discretion and is not supported by substantial evidence (or in many cases any evidence at all), as detailed herein and in other comments and letters filed by Friends and its legal counsel. The Commission has abandoned its duty to uphold the Coastal Act for mere political reasons, i.e., it dislikes OHV recreation and is dead set on preventing the long-standing activity at Oceano Dunes, notwithstanding a state statute that authorizes the activity at parks like Oceano Dunes.[1]

[1] Friends also renews its objections to providing the public only four business days to respond to the staff report and extensive exhibits.

More detailed objections and comments are provided below:

1. The Commission Lacks Authority Under the Coastal Act to Expand the Proposed Project in a Way That Is Inconsistent with State Parks' CDP Application and EIR, and to Include Elements Specifically Rejected by State Parks.

Here, the Commission seeks to change the scope and elements of State Parks' CDP application in order to accommodate the expanded area and development suggested by the San Luis Obispo County Air Pollution Control District ("APCD"). (See Staff Report, p. 23 ["Thus, the Commission authorizes in this CDP the suite of potential dust control measures identified by APCD."]; see also Special Condition 1.)

Under the Coastal Act, the Commission has no authority to change a project description or to expand the scope of activities or development in a CDP application. The Commission, as a state agency, has only those powers specified in the Coastal Act, and the Coastal Act includes no such authority.

Whether State Parks' proposal is adequate to meet the requirements of Rule 1001 is an issue that must be addressed by the APCD in enforcement proceedings against State Parks. The Commission has no authority to expand the dust control program CDP application on its own initiative, or even upon the recommendation of the APCD.

The Commission staff admits that the Coastal Act limits the authority of the Commission with respect to air quality measures. The Commission has no authority beyond what is set forth in the Coastal Act. Public Resources Code § 30414.

PRC § 30414 clearly prohibits the Commission from establishing "or modifying" any "air pollution control program." That's what is at issue in the CDP application. State Parks has proposed a CDP for a program that it developed in accordance with Rule 1001.[2] The Commission rejects State Parks' program as inadequate and modifies the CDP to include an expanded program that the APCD prefers. Yet, this is an issue between State Parks and APCD. The Commission has no authority to expand the CDP to include program elements that State Parks did not request, and in fact, expressly considered and *rejected*. The APCD is not a co-applicant. The APCD could have been a co-applicant, but decided not to. If the APCD believes that State Parks' program is inadequate in some way, then the

[2] The Commission's description of the status of Rule 1001 and the prior litigation shows how biased the Commission is on this subject. The Commission's staff report fails to mention that the Court of Appeal, in a published decision, held that the permit requirement previously contained in Rule 1001 was unlawful and exceeded the APCD authority under California air quality statutes.

APCD has the lawful remedy of an enforcement action against State Parks. But the Commission has no authority to change State Parks' application unilaterally.

While the Commission can consider recommendations made by CARB or the APCD on which Commission actions can "complement or assist" in the implementation of the air quality program, *unilaterally changing* the applicant's CDP application far exceeds the limited authority under § 30414.

That is especially the case here because the APCD *delegated to State Parks* the authority to develop the dust control program, subject to APCD approval. There is no authority to expand the CDP to cover measures that State Parks did not request, and elements State Parks specifically rejected.

Additionally, Pub. Res. Code § 30607 requires that any terms and conditions added by the Commission must be "reasonable." It is not reasonable and is further an affront to comity for the Commission to expand the scope of a permit application to include elements specifically considered and *rejected* by sister state agency expressly due to inconsistency with environmental, endangered species and coastal laws and policies (discussed later in this comment letter).[3]

The Commission's proper focus should have been whether the proposed dust control program is consistent with the Coastal Act, but the Commission did a poor job on the task it is charged with under the Coastal Act.

2. By Attempting to Modify the Project Description in a Last Minute "Bait and Switch," the Commission Violates CEQA's Mandate for a "Stable" and "Accurate" Project Description.

California courts have consistently held that an accurate, stable, and finite project description is indispensable to an informative and legally sufficient EIR. This concept applies equally to a certified regulatory program like the Coastal Commission's because a certified regulatory program is subject to the broad policy goals and substantive standards of CEQA.

---

[3] The project description is also different in another fundamental way in that the Commission seeks to include all past temporary dust control measures as part of the permitted activity, while State Parks insists that they are merely part of the baseline. The previous dust control activity was illegal because it either was based on an illegal "emergency" permit, when no such "emergency" existed under the Coastal Act; or because the Commission illegally sought to include the activity as nuisance abatement, when that statute doesn't authorize nuisance abatement work without a permit for a special district like the APCD and the Commission has no authority to declare a nuisance. Friends has filed separate lawsuits challenging the legality of those activities and it incorporates those pleadings by reference here. State Parks concurs that the Commission doesn't have authority to declare a nuisance or exempt the previous activities under a nuisance abatement exemption statute that on its face doesn't apply to special districts.

The Commission seeks to modify the project description here by including elements of dune stabilization and dune surface rehabilitation that are not found in State Parks' EIR, and separately, by expanding the project to include elements requested by the APCD, that State Parks evaluated and expressly rejected! (Discussed later in this comment letter.)

Modifying the project description at this late stage (after issuance of a draft and final EIR which the public has reviewed and commented on) violates the core principles in CEQA that the project description must be "stable" and accurate." At the very least, the Commission has an obligation to re-circulate the new project description so that the applicant and public have a fair chance to understand and comment on it.

But with a moving target, meaningful pubic comment and review is impossible. Here, where State Parks focused on one project description for nearly 13 months in a draft and final EIR only to have the Commission staff modify that project description in a staff report issued at 3 pm on the Friday heading into Labor Day weekend, and then allow only four business days' for public comment. That is the antithesis of fair public disclosure allowing informed, meaningful comment, which is contrary to the broad policy goals and substantive standards of CEQA, as implemented through the staff report. It is a classic, last-minute "bait and switch" used-car salesmen trick that confuses the public.[4]

Project description stability also is of special concern here where the agency *expands* the scope of the proposed project, and the likely environmental, endangered species and coastal resources impacts. The Commission is expanding the acreage and scope of the dust control measures, which State Parks already has concluded will result in greater environmental impacts.

3. The Commission's Last Minute Change in the Project Denies State Parks, Friends and the Public Due Process under the U.S. and California Constitutions.

Procedural due process requirements under the U.S. and California Constitutions include providing adequate notice and an opportunity to be heard, as well as a fair hearing.

Here, State Parks set forth a project description for nearly 13 months in a draft and final EIR only to have the Commission staff modify that project

[4] The Final EIR advised the public that the Coastal Commission might have a different view of whether the project is consistent with the Coastal Act, but the EIR failed to disclose that the Commission might *change* the size and scope of the project in CCC proceedings. (See, e.g., Final EIR, p. 3-35.) This is misleading to Friends and the public and violates CEQA's broad policy goals and substantive standards.

description in a staff report issued at 3 pm on the Friday heading into Labor Day weekend, and then allow only four business days' for public comment. That makes a mockery of meaningful public comment and makes a fair hearing impossible.

Friends requested a continuance of the hearing on this matter by email on September 5, 2017, but has received no response from the Commission.

The expanded project pushed by the Commission will negatively interfere with Friends' members' use of Oceano Dunes SVRA, and also with the use enjoyed by owners of private parcels within the SVRA.

4. The Commission's Abbreviated Review Period for Comment on the Staff Report Is Inconsistent with Public Resources Code § 21080.5(d)(3)(B).

Public Resources Code § 21080.5(d)(3)(B) requires that the environmental documentation used in a certified regulatory program (in this case the staff report) must "be available for a reasonable time for review and comment" by other public agencies and the general public. California Code of Regulations, title 14, § 13532 permits a court to make a case-by-case determination as to the reasonableness of the notice and comment period.

Here, the Commission allotted four business days for public and applicant comment on a detailed staff report that runs more than 150 pages, and that addresses issue that Commission staff has been evaluating since 2012, or 5 years. In that context, a four day review period is not reasonable. This will be even more the case if the staff issues an addendum to its staff report mere days before the public hearing.

5. The Commission Is Violating the Broad Policy Goals of CEQA and the Statute's Substantive Standards.

The intended function of the environmental review documents prepared under a certified regulatory program in lieu of an EIR is the same as that served by an EIR. In order to claim the exemption from CEQA's EIR requirement, an agency must demonstrate strict compliance with its certified regulatory program. Even if the agency can demonstrate strict compliance, certified regulatory programs and the agency remain generally subject to other CEQA requirements.

The documentation required of a certified program essentially duplicates that required for an EIR. Thus, as the functional equivalent of an EIR, the Commission staff report must provide public and governmental decision-makers with detailed information on the project's likely effect on the environment, describe ways of minimizing any significant impacts, point out mitigation measures, and identify any alternatives that are less environmentally destructive.

It must include mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment. There must be a reasoned basis in the record that explains why staff is overruling or ignoring facts, analysis and findings in previous environmental reviews like an EIR.

Mitigation must be discussed and analyzed before a CDP is approved. A state agency considering proposed action under a certified regulatory program must not approve or adopt the activity if there are feasible alternatives or feasible mitigation measures available that would substantially lessen a significant adverse effect that the activity may have on the environment. It also the general rule that it is unlawful to postpone the formulation of mitigation measures until after approval.

Because an EIR was prepared here, and the Commission responded to some of the facts, data and analysis in that study, to the extent that the Commission does not expressly refute such analysis, facts, data and findings, then it must be presumed that the Commission is accepting the EIR's analysis, facts, data and findings. To the extent that the Commission expresses disagreement with any part of the EIR's analysis, facts, data and findings, then the Commission must have substantive evidence supporting its position and refuting State Parks' analysis, facts, data and findings, and if it does not present such evidence in its staff report, then the Commission's new finding is not supported by substantial evidence, is contrary to law and is arbitrary and capricious and is a prejudicial abuse of discretion.

The Commission's staff report has failed to meet the broad policy goals of CEQA, as well as numerous substantive standards, as explained in detail throughout this comment letter and other letters filed by Friends and its legal counsel.

A determination by the Commission may be overturned if it fails to strictly comply with its certified regulatory program, and/or the broad policy goals and substantive standards of CEQA.

6. The Commission Also Cannot Expand the CDP Scope Beyond What State Parks Has Proposed Because State Parks' EIR Rejected Those Additional APCD Measures As Environmentally Unsound As Well As Inconsistent with the Coastal Act, and the Commission Failed to Refute That Analysis or Data.

Another reason that the Commission cannot simply expand the scope of the CDP beyond what State Parks has proposed in its CDP application is that State Parks, in its draft EIR issued in August 2016, already concluded that the expansion of the dust control program in the way that the APCD has requested would result in additional, *significant environmental impacts*, and would be inconsistent with the Coastal Act.

In its draft EIR for the dust control measures, State Parks considered expanding its dust control measures to accommodate the APCD by (1) expanding the project area to include all OHV recreation lands, including the plover seasonal exclosure land; (2) emphasizing vegetation island placement closer to the shoreline and foredunes; and (3) increasing the amount of wind fencing by 20 percent per year (resulting in a doubling of the covered acreage to 83 acres). (See Draft EIR, pp. S-8 and S-9.)

State Parks concluded that this expanded alternative would result in significant additional, adverse biological, recreational, visual and aesthetic impacts. (Id., p. S-9.) State Parks also concluded that the expanded alternative would result in the adverse modification of designated critical habitat for the federally-listed western snowy plover. (Id.)

State Parks' EIR found that Oceano Dunes SVRA is established on lands where there are quality recreational opportunities for OHVs. These areas must be developed, managed, and operated for the purpose of making the fullest public use of the outdoor recreational opportunities present. In addition, the EIR noted that the Coastal Act mandates "maximum access and recreational opportunities."

As explained herein, State Parks' EIR concludes that both the preferred and alternative (APCD) scenarios would result in significant impacts to public access and recreational use in violation of the Coastal Act. The Commission seeks to overrule this conclusion with no substantial evidence and by making false statements and assumptions.

Similarly, the Commission discounts and disregards State Parks' analysis showing potential impacts to biological resources without any evidence refuting State Parks' analysis or the analysis of Rob Roy Ramey.

The EIR establishes a number of thresholds of significance for biological resources, including a finding of significance if the dust control program would "have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS." (Draft EIR, p. 7-17.)

The EIR concluded that the "Dust Control Program activities . . . have the potential to result in direct and indirect effects on special-status plant species and their habitat." (Id. at p. 7-21.)

The EIR also finds that the "Dust Control Program activities would have the potential to result in direct and indirect effects on special-status wildlife species and their habitat." (Id., at p. 7-22.) The EIR continues:

> Direct effects could include habitat loss and harassing, harming, and/or inadvertent trapping, wounding, or killing special-status wildlife species during work activities (including project access). Indirect effects could include habitat alteration or loss (i.e., changing existing habitat to a different type of habitat), increased predation of special-status species, and interference with or loss of reproductive interest and/or success.

(Id.)

> The EIR also notes:
>
> Currently, western snowy plover and California least tern breed primarily breed directly west of the Program area. It is possible western snowy plover and California least tern, would be encountered in the western part of the Program area. Although unlikely, western snowy plovers could possibly be encountered throughout the Program area during foraging and wintering activities.

(Id.)

> Given their listed status, impacts to California red-legged frog, western snowy plover, and California least-tern would likely be of the greatest magnitude; however, all impacts to special- status wildlife species and their habitat could be potentially significant.

(Id.)

State Parks evaluated the expanded alternative proposed by APCD and illegally used by the Commission here.(See Draft EIR, pp. 12-10 through 12-12.) This alternative includes expanding the program area from 690 acres to 950 acres. (Draft EIR, p. 12-10 [not including 295-acre off-site tree planting area].) APCD seeks to expand this even further, which obviously would have greater adverse impacts. One additional problem is that the APCD doesn't define exactly how much larger its expansion would be, meaning that the Commission has failed to explain exactly what it is approving in the CDP, and that lack of definition and ambiguity also violates Pub. Res. Code § 30607, as it the proposed expansion is unreasonable on that basis. (See Staff Report, Ex. 9, p. 2.) The alternative also would include planting vegetation "in areas closer to the shore" and in foredune areas, although it doesn't say exactly how or where. (Id.) It also would include substantially expanded wind fencing, again, left undefined. (Id., p. 12-11.)

The EIR concludes that this expanded alternative would result in greater and significant impacts to biological resources[5]:

> "Furthermore, this alternative could result in new, potentially significant or significant and unavoidable impacts on aesthetics and/or biological resources. The alternate dust control program could more than double the amount of wind fencing installed in Year 5 (83 acres versus 40 acres) if the Rule 1001 performance standard is not met, which would increase the visibility of the fencing array from all receptor vantage points. The alternate dust control program could also result in direct and/or indirect impacts on biological resources because the emphasis on planting vegetation in near-shore areas would likely modify, to some degree, USFWS-designated critical habitat for the western snowy plover (federal-listed as threatened). Planting vegetation in this critical habitat area could impact active nests by providing habitat for predators to hide and stalk nesting western snowy plovers and California least terns (federal- and state-listed as threatened). The proposed Dust Control Program largely avoids this impact by setting back the Program area at least 1,100 feet from the mean high tide line and avoiding USFWS critical habitat areas."

(Id., p. 12-11; and Final EIR, p. 3-30 [minor word changes].)

> the vegetation planting may change the dune ecosystem in a manner that adversely affects the environment for two breeding listed species, which is inconsistent with the OHMVR Division's need to manage and protect these natural resources.

(Draft EIR, p. 12-12.)

While Friends and its biological expert, Rob Roy Ramey, disagree with the EIR's conclusion that the preferred alternative would avoid predator caused plover deaths and harm as a result of the vastly expanded vegetation islands, State Parks itself agrees that the expanded alternative insisted on by APCD (and now illegally substituted in these proceedings by the Commission) would adversely impact plover nesting and breeding because the expanded dust control measures would be much closer to active plover areas.

The Final EIR further concludes that:

> Planting vegetation within western snowy plover and California

[5] See also Final EIR, p. 3-33.

> least tern breeding and/or wintering (snowy plover only) habitat would reduce available suitable western snowy plover and California least tern breeding and/or wintering habitat by decreasing the amount of open, wide sandy acreage. Previous studies have found that western snowy plovers and California least terns select habitats that are open (or wide) and have less vegetative cover in order to facilitate early detection of predators and reduce predation risk (Muir and Colwell 2010, Brindock and Colwell 2011, Patrick and Colwell 2014). Planting vegetation in suitable habitat for these species would reduce the open (or wide), sparsely vegetated acreages and could, thus, increase predation on adults, chicks, and/or eggs if western snowy plovers and California least terns are not able to detect predators moving towards the nest location. However, the OHMVR Division has designed Program activities to avoid western snowy plover critical habitat and active western snowy plover and California least tern nesting areas; therefore, this impact would be avoided.
> (Final EIR, p. 3-25.)

Friends and its biological consultant disagree that State Parks' preferred alternative avoids this impact by placing the dust control measures outside of critical habitat; a similar adverse effect will occur when the dust control measures are adjacent to the critical habitat or near the critical habitat. In any event, State Parks agrees that this impact will occur if the dust control measures are located in the habitat. Yet, that's exactly what will happen if the expanded alternative pushed by the APCD and now illegally added by the Commission is adopted.

The Commission completely ignores and discounts State Parks' findings, Friends data and the biological analysis performed by Rob Roy Ramey. There is no substantial evidence supporting the Commission's explicit and implicit rejection of this data and analysis.

Such impacts would violate the Coastal Act by allowing the project to adversely affect sensitive coastal resources, i.e, the plover and California least tern.

Both the preferred and alternative project options would also adversely impact sensitive plant species such as the federally–listed La Graciosa thistle.[6]

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[6] The EIR itself is deficient as it relates to the sensitive and listed La Graciosa thistle. The EIR admits that "there is suitable dune habitat within the Program area [for the thistle] . . . ." (Draft EIR, p. 7-10.) State Parks concludes that the species is not known to occur within the Program area, but this finding directly conflicts with the U.S. Fish and Wildlife Service's determination at the time it designated critical habitat that Oceano Dunes is deemed "occupied" critical habitat by the species. This conflict is never explained or resolved either in the EIR or in the Commission's post-EIR analysis.

The Commission also ignores and discounts the EIR's finding that the expanded option preferred by the APCD would result in greater adverse impacts to visual resources.

The Commission has failed to refute any of this analysis through substantial evidence and/or its has prejudicially abused its discretion.

7. State Parks Identified the United States Fish and Wildlife Service (FWS) as an Interested Agency under CEQA, Yet Neither State Parks Nor the Coastal Commission Obtained Comments from the FWS.

In its EIR, State Parks identifies the United States Fish and Wildlife Service (FWS) as an interested agency under CEQA, yet neither State Parks nor the Coastal Commission solicited or obtained comments from the FWS. This is a glaring deficiency in the EIR, staff report and CDP process given the potential impacts to the plover, including habitat and breeding. (Draft EIR, p. 1-12.) Further, the Commission failed to consult FWS on its proposed expansion of the dust control program.

Given the EIR's finding that the expanded alternative pushed by APCD and the Commission will likely adversely impact the plover and the thistle, it would seem imperative that FWS review and evaluation of those impacts be included in a meaningful analysis before a CDP can be issued. There is no evidence that FWS studied the expanded project being pushed by the Commission in its staff report released September 1, 2017. Nor is there any evidence that the FWS received the EIR or the full staff report, or reviewed it.

This deprived the Commissioners of information necessary to informed decision-making and foreclosed informed public participation.

The Commission's failure to consult with FWS also violates Pub. Res. Code §21808.5(d)(2)(C), and its policies and standards.

8. The Dust Control Measures May Not Be Placed in ESHA Because They Are Not "Dependent" on ESHA.

The Commission admits that the entire area of the dust control program is deemed ESHA both by the Commission and by SLO County. (Staff Report, pp. 10 and 25.)

Neither State Parks no the Commission has authority to deem an area as "not" occupied, after the FWS has deemed it "occupied."

The Coastal Act prohibits any development within an ESHA unless the development is a "use dependent on those resources." Pub. Res. Code § 30240.

Here, the Coastal Commission and State Parks have the burden to establish that the proposed dust control measures constitute a "use" "dependent" on ESHA, since the entire project is located within ESHA. Pub. Res. Code § 30240. The Commission also admits that much of the dunes are designated critical habitat for the threatened western snowy plover and serve as habitat for the endangered California least tern. (Staff Report, p. 25.)

The Commission falsely describes the dust control program as designed to "stabilize dune structure," and "protect and restore dune surface properties," or "qualities." The Commission then concludes that the activity is "inherently an allowed use within dune ESHA." (Staff Report, pp. 4, 20.) This is semantics intended to try to shoehorn the activity within allowed uses in ESHA.

The Commission argues that the dust control measures are a "use" "dependent" on ESHA because they are "restoring" the dunes. (Staff Report, p. 25.) The Commission asserts (falsely) that the "proposed project at its core seeks to stabilize dunes." (Id.)

To the contrary, the project as defined by State Parks is not to "stabilize the dunes," "at its core" or otherwise. Commission staff uses the phrase "at its core" as a tacit admission that the project definition doesn't describe include "stabilizing the dunes." The project does not seek to "stabilize the dunes." It seeks to reduce dust emissions. Indeed, in 2016, the Commission sent State Parks a letter criticizing it for not clearly stating in the EIR hat the objective of the project was compliance with Rule 1001. The Commission seems to want to have it both ways.

State Parks' project description, as the CDP applicant, and as set forth in its EIR does not state that its purpose is to "stabilize the dunes." The definition doesn't say a word about stabilizing the dunes. Similarly, the EIR's project objectives fails to list stabilization or restoration of dunes or dune surfaces as an objective. (Draft EIR, pp. 2-1 and 2-2.) As a result, it is simple a fiction for the Commission to allege that these objectives are "at the core" of the project definition and objectives. They are not.

The Commission staff report further asserts that "the measures themselves are largely designed to better protect and preserve dune features, including stabilizing dune structure and restoring dune surface properties." (Staff Report, p. 25.) More bunk. The project description states that the measures are designed to reduce dust emissions. The project description doesn't say a word about "protecting dune features," or "stabilizing dune structure," or "restoring dune surfaces." In fact, the dust control project not only is <u>not</u> designed to do those things, and won't do those things, but will <u>do the opposite</u>.

For instance, at the 7.5 island re-vegetation built by State Parks as part of a restroom project that was never installed, a deep depression has formed on the non- windward side of the veg island as a result of the veg island. (See attachments submitted with this comment letter.) New veg islands will have the same effect. In other words, the veg islands result in significant changes in the dune structure on the backside of the veg island. The island don't protect dunes structures, they cause depressions and dangerous slopes running off the non-windward sides of the veg islands. This has a de-stabilizing effect, not a stabilizing effect.

Likewise, the manmade metal chains and other artificial roughness material does not "restore" the dune surface, it simply changes its dynamics to reduce wind blown dust. The dunes did not historically have manmade metal chains and other artificial roughness material so it is false to assert that adding those structures "restores" the dune surface. In addition, even with respect to vegetation, much of the vegetation was added by man, and does not occur naturally. Even that cannot be said to "restore" the dune surface.

Even State Parks doesn't agree with these assertions. In fact, State Parks' EIR concludes that the dust control measures won't significantly limit the overall dynamics of the dune sheet movement and dune creation. Large open sand areas "would continue to persist." The Commission presents argument unsupported by any data.

For these reasons, the proposed dust control measures don't constitute a "use" "dependent" on ESHA, and are not permitted at this location since that is prohibited by Pub. Res. Code § 30140.

9. The Dust Control Measures Do Not Avoid Significant Disruption of Habitat Values in ESHA.

The Commission next suggests that it is adequate if the project is "designed" to avoid significant disruption of habitat values. (Staff Report, p. 25.) This misstates the legal standard established by Pub. Res. Code § 30240. That Coastal Act provision mandates that ESHA "shall be protected against significant disruption of habitat values." Designing a project to achieve that standard is not adequate. The development must actually avoid significant disruption.

The project does not meet the standard.

The Commission seeks to meet the standard by requiring Special Condition 1(a). It fails.

The Commission asserts that Special Condition 1(a) "prioritizes dust control measures in areas that are already disturbed, ensuring that implementation of those dust control measures will not further disrupt the dune ESHA . . . ." (Staff Report, p. 25.) In essence, the Commission argues that

placing development in disturbed ESHA will not disturb ESHA because it is already disturbed. This tautology doesn't pass legal muster. The Commission has a legal obligation to protect ESHA regardless whether it's disturbed. The Coastal Act contains no special exception for placing development in disturbed ESHA. Disturbed ESHA and non-disturbed ESHA have the same legal standing and protection under the Coastal Act. In addition, placing development in disturbed ESHA ensures that the ESHA remains disturbed. That does not comply with the Coastal Act. In addition, placing development in a disturbed ESHA can worsen the disturbance, which is what happens here. Placing metal mesh and chains or dense fencing in ESHA disturbs even the disturbance ESHA by escalating the disturbance. The legal standard is whether placement of the new development will significantly disrupt habitat values, and placing metal mesh and chains on the ground and dense fencing structures will clearly worsen habitat values, even compared to disrupted ESHA. The Commission admits even hay will disrupt habitat values. (Staff Report, p. 25.) Thus, the Commission takes inconsistent positions on hay bales, on the one hand, and dense wind fencing and metal mesh and chains, on the other. In truth, all of these measures will significantly affect habitat values and it is false to claim that hay will affect the values but metal mesh and fencing won't.

In addition, new veg islands will worsen habitat values by increasing cover for predators of the western snowy plover, likely resulting in more plover injuries and deaths. The Commission ignores this by claiming that new vegetation will provide cover for species against predation, without acknowledging the opposite effect – that the vegetation will provide cover for predators. Western snowy plover don't typically seek cover in dense 20-acre vegetation islands. Predators use that extensive vegetation to hide from the plover's sight before eating the plover. The Commission did not consult the U.S. Fish and Wildlife Service on this question and the FWS has yet to weigh in, and since the western snowy plover is not listed as threatened or endangered by the State of California, the California Department of Fish and Wildlife has no relevant expertise on this issue.[7]

For these reason, and because of additional impact to sensitive coastal biological resources, the Commission's issuance of a CDP for either the State Parks' alternative or the Commission's proposed alternative violate the Coastal Act, including but not limited to, Pub. Res. Code § 30240.

10. The Commission Ignores the Coastal Act in Its Assessment of Impacts to Public Access and Recreation.

State Parks acknowledges in its EIR that any dust control measures located within the open riding area would adversely affect public access and

[7] The Commission is required to consult with other public agencies having jurisdiction and should consult with persons having special expertise. The Commission failed to consult with FWS or Rob Roy Ramey.

recreation resources. (Draft EIR, p. 2-31.) State Parks seeks to plant the new veg. islands outside the riding area "to the maximum extent feasible." (Id.)

State Parks considered an alternative project scenario that called for larger vegetation island area, and greater vegetation within the riding areas. (Id.) The alternative project also would increase the acreage covered by temporary dust control measures. (Id.)

The Commission uses a metric of 100 acres of land permanently removed from OHV riding and planted with vegetation, (Staff Report, p. 27), and simultaneously seeks to expand that acreage substantially to accommodate the APCD's desires. But, as State Parks concluded in its EIR, expanding the acreage and dust control measures in the way demanded by the APCD will result in much greater environmental impacts, including impacts to coastal resources which the Commission is charged with protecting. This same analysis applies to the temporary dust control measures which the Commission also seeks to expand.

The Commission further falsely asserts that restricting public access by foreclosing use of more than 100 acres is allowable under the Coastal Act because it is merely regulating the time, place and manner of access, depending on the "capacity of the site to sustain use and at what level of intensity." (Staff Report, pp. 4 and 28.) State Parks did not propose the dust control program because there is some issue regarding the "capacity of the site to sustain use." There is no evidence whatsoever in the record (much less substantial evidence) that the dust control program is intended to sustain use or capacity. Rather, it is intended to mitigate the effects of dust on *surrounding* areas.

Nor is there any evidence that the dust control measures have been proposed to mitigate the "fragility of the natural resource." (Staff Report, pp. 4 and 28.)

The Commission also suggests that the prohibition of riding in these areas is necessary to preserve the resource, (Staff Report, p. 28), but there is nothing in the record to support that contention either. As noted the vegetation islands are likely to create deep depressions (as historically has been the case), which is exactly the opposite of preserving and protecting the dune resource.

Likewise, the Commission resorts to the manufactured fallacy that the project is intended to stabilize the dunes and restore the dune surface. (Staff Report, p. 28.) Nothing in State Parks' EIR or CDP application even hints that is the purpose of the project or an objective of the project. The Commission doesn't have the authority to redefine the project or its objectives.

The Commission falsely states that "several thousand" acres will still be available for OHV recreation at Oceano Dunes SVRA – the actual acreage will be 900 acres or less.

The Commission also wholly ignores the drastic reduction in riding are that has occurred since the 1970s. Figure 4-1 in State Parks' EIR shows this graphically. The riding area has been reduced by more than 10,000 acres.

The Commission miscalculates the effect of reducing the riding area further. The current area available to riding on a seasonal basis is 1,169 acres after deducting the plover protection area. (Draft EIR, p. 4-12.) The Commission asserts that 100 acres may be used for the project while simultaneously admitting that substantially more than 100 acres could be used, and purporting to authorize an expanded area that could reach 183 acres. In other words, the project may well reduce the riding area by more than 15 percent from the already drastically reduced area (not the 6 percent asserted by the Commission).

Since 1981, the riding area has been reduced by 91 percent or more. After a 91 percent reduction, the Commission cannot characterize an additional 15 percent reduction as "relatively minor." (See Staff Report, pp. 28-29.)

The Commission asserts that under any scenario "over two square miles" will be available for off–road use and that's enough. (Staff Report, p. 29.) But the Commission fails to consider that those two square miles must service nearly two million visitors per year. Given this level of visitation by off-roaders, and given that this is the single most visited park in the entire California park system (OHV or non-OHV), there is no basis to argue that this reduction is "minor," or that two square miles is adequate under the Coastal Act.

To add insult to injury, the Commission has also been pushing to reduce visitation to a certain "carrying capacity." The Commission will now argue that the reduced area has a reduced "carrying capacity," and thus visitation must be further restricted.[8] This can only be described as a thinly veiled effort to drastically reduce OHV recreation at Oceano Dunes.[9]

The Commission also appears to ignore State Parks' thresholds of significance analysis without any basis. (Draft EIR, pp. 4-20 and 4-22.)

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[8] The Commission also errs by rejecting State Parks' conclusion that OHV riding at this location is a "coastal dependent" resource. As State Parks notes, the Coastal Act defines " 'coastal-dependent development or use' to mean any development or use which requires a site on, or adjacent to, the sea to be able to function at all (PRC §30101)." Beach- and dune-oriented recreational opportunities like those uniquely available at Oceano Dunes are therefore coastal-dependent recreation activities. This is the only location in California where beach driving, RV beach camping and coastal dune off-recreation is available.

[9] Even the EIR miscalculates the effect of the additional 100 or 200 acre reduction in riding area. The EIR assumes that the nearly 2 million visitors to Oceano Dunes SVRA are serviced by 3,500 acres. That is false. All but about 1,100 acre are closed to OHV riding. Thus, the 2 million visitors are crammed into 1,100 acres, not 3,500 acres. (See Draft EIR, pp. 4-6 and 4-12.)

In determining whether the Dust Control Program would substantially limit, reduce, or interfere with established recreational activity, State Parks considered the following factors:

• The recreational history of Oceano Dunes SVRA

• The number of visitors that could be affected by a change in established recreational opportunities

• The extent to which changes to established recreational opportunities would be perceptible to visitors

• The ability of visitors to use similar facilities instead of Oceano Dunes SVRA

• The legislative mandate and mission of the OHMVR Division.

(Id.)

The Commission fails to refute this standard or this analysis.

Using this standard, State Parks determined that under either its proposal, or the larger APCD proposal (alternative scenario), "closure of land inside the Oceano Dunes SVRA open riding and camping area" is "a potentially significant impact on OHV recreation." (Draft EIR, p. 4-24.)

In compliance with Public Resources Code § 5090.35 regarding monitoring and protecting wildlife resources, State Parks also adopted SPRs that would avoid or minimize the potential adverse biological resource effects of the Program including: Designing and implementing the Dust Control Program "to disturb and occupy as little land as possible." (Draft EIR, p. 7-17.) The Commission ignores these discounts or ignores these findings with little or no data that contradicts State Parks. The Commission also ignores the EIR finding that the expanded alternative would result in greater impacts to public access and recreational lands, including impacts to the "Sand Highway." (Draft EIR, p. S-9.)

The Commission's misanalysis is worsened because the Commission completely rejects State Parks' proposed mitigation for impacts to recreation and public access. (Staff Report, p. 29.) It basically throws out State Parks finding that the significant impacts to this resource can only be mitigated through mitigation measure REC-1 (putting aside State Parks' further conclusion that the mitigation may not be enough to address these impacts). (Draft EIR, pp. 4-24 and 4-25; and Final EIR, pp. 3-1, 3-2 and 3-17.) (Staff Report, p. 29.) The Commission is wrong and its analysis is a prejudicial abuse of discretion.

The Commission argues that mitigation is unnecessary because both the preferred and alternative scenarios are consistent with the Coastal Act standards for public access and recreation areas. As explained above and herein, the Commission's conclusion is erroneous, contrary to law, unsupported by substantial evidence, a prejudicial abuse of discretion, ignores basic information and facts, and rejects State Parks' standard of significance without any support or argument.

The Commission also argues that the mitigation would require an amendment to the existing CDP for park operations. The Commission misrepresents that the operations CDP is a perfect balancing of all factors. In fact, the Commission has repeatedly criticized the existing operations CDP and has held hearing within the last year discussing ways to change it. In addition, the Commission disingenuously fails to note that it is presently in detailed discussions with State Parks to supplant the CDP with a public works program to manage Oceano Dunes SVRA. In addition, such changes to the oversight of the SVRA is legally feasible because it is entirely within the power of State Parks and the Commission to make such changes.

The Commission also objects to the proposed mitigation because it would allow OHV riding in some ESHA areas. However, since this park is the only state –owned public location in the entire State where coastal OHV recreation is allowed, it is a "use" dependent on the resource and thus allowed under Public Resources Code § 30240. The Commission is in error in concluding that State Parks doesn't explain this.

The Commission's action is particularly egregious because State Parks concluded that "even with the implementation of Mitigation Measure REC-1, the potential remains for the Dust Control Program (in Year 5) to temporarily (43 acres) and permanently (70 acres) limit and interfere with OHV recreation at Oceano Dunes SVRA." (Draft EIR, p. 4-25.) As the EIR further concluded:

> Factors such as the SVRA's history of use, historical reduction in vehicle recreation lands in the area, current seasonal reduction in vehicle recreation lands, high visitor attendance levels, and the unique, low-cost nature of the coastal recreational opportunities provided by the SVRA <u>make this loss of OHV lands a substantial and adverse change to OHV recreation at Oceano Dunes SVRA. Thus, Impact REC-1 would be a significant and unavoidable impact of the Dust Control Program. In addition, the proposed Dust Control Program would contribute to a significant and unavoidable cumulative impact on coastal vehicular recreation lands, as described in Chapter 11, Cumulative Impacts.</u>

(Id.)

The Commission also fails to consider the cumulative impacts of reducing the riding area, beach camping and linear beach access over time, i.e., the variety of conservation measures have reduced the riding area by more than 10,000 acres since the 1970s.

In sum, the Commission violates the Coastal Act by allowing such a large impact to public access and OHV recreational use.

11. The Commission Has Violated Pub. Res. Code §§ 30601.3 and 30601.5.

Pub. Res. Code § 30601.5 requires the Commission to notify "all holders or owners of any other interests of record in the affected property . . . in writing of the permit application and invited to join as coapplicant."

The Commission admits that there are 41 private inholdings in the LaGrande Tract area. (Staff Report, p. 11, n. 7.) The Commission asserts that each of these owners was invited to be a co-applicant for this project, but there is no evidence in the staff report that the Commission invited them, i.e., none of the letters is included as an exhibit to the staff report, nor is any list of owners contacted included in the report or exhibits.

Friends is aware of at least one of these invitations, and notes that it was sent to the private land owner the last few days of August 2017 – meaning that the Commission made the invitation nearly five years after State Parks submitted its CDP application (in November 2012). This is not a good faith compliance with Public Resources Code § 30601.5. Even assuming that these owners received the letter invitation before the Commission staff report was issued on September 1, 2017, the land owner would have missed every meeting or discussion concerning the application for the past five years. This is not a real invitation to participate as a co-applicant. To be a real co-applicant, one must have a meaningful opportunity to participate in the development of the application, not merely be advised that five years earlier the application was made and the staff is making a recommendation that will be voted on in a matter of days.

In addition, by notifying land owners of their right to join as a co-applicant five years after the initial application, the Commission has violated Pub. Res. Code § 30601.3. That provision allows a consolidated permit application like this one only under certain conditions. One such condition is that the review consolidation does not "substantially impair" public participation. Failing to advise these land owners of the consolidated permit process, and their right to participate as a co-applicant, violates both Public Resources Code § 30601.3 and § 30601.5.

12. The Commission Fails to Discuss or Address the Legal Inconsistency Between State Parks and SLO County Regarding the Authority to Use the La Grande Tract for Dust Control Measures, and Fails to Identify a Known Controversy As Required by CEQA Guidelines § 15123(b), Or Its Goals or Substantive Standards.

The Commission staff report fails to address a key legal issue regarding the La Grande Tract. This raises an issue regarding proper disclosure to the public. In addition, the failure of State Parks to identify this dispute and issue in its EIR violates CEQA Guidelines § 15123(b) (or its goals or substantive standards), which has not been properly remedied by the Commission in its CDP process.

In its EIR, State Parks represents that the La Grande Tract: ". . . is owned primarily by the County; however, the OHMVR Division has entered into an operating agreement with the County to operate this land."
(FEIR, p. 3-5.)

This representation is contradicted by SLO County. In recent litigation brought by Mesa Alliance, the San Luis Obispo County Superior Court held a hearing concerning the County LCP and whether it mandates a MOU between State Parks and the County for management of the La Grande Tract. In legal papers filed for that proceeding, the County asserted that the operating agreement has expired and that there is no agreement governing State Parks use of the La Grande Tract.

Here, with respect to the application for a CDP for the dust control project, State Parks and the County are co-applicants. Thus, the two co-applicants appear to disagree on the legal basis for State Parks' use of the La Grande Tract, including the legal basis for the dust control measures.

Yet, the Commission failed to discuss this specific issue at all. State Parks EIR is deficient in that it asserts that the operating agreement is in effect, without alerting the public that the County asserts that it is not. The County has not explained what the legal relationship is between State Parks and the County with respect to the La Grande Tract. Nor has the Commission clarified this issue, which would appear to be a prerequisite to granting a new CDP, and a substantive goal and requirement of CEQA.

13. The Commission Fails to Discuss or Address the Legal Inconsistency Between State Parks and Commission Regarding ESHA, and Fails to Identify a Known Controversy As Required by CEQA Guidelines § 15123(b), Or Its Goals or Substantive Standards.

The Commission staff report fails to address a key legal dispute between the Commission and State Parks regarding ESHA. This raises an issue regarding proper disclosure to the public. In addition, the failure of State Parks to identify this dispute and issue in its EIR violates CEQA Guidelines § 15123(b), or its goals or substantive standard, which has not been properly remedied by the Commission in its CDP process.

State Parks contends that most areas within the Program boundary are not ESHA. The Commission and SLO County say they are. Yet, the Commission does not alert the public to this legal dispute between the agencies.

In addition, the California Supreme Court has ruled that delaying full consideration of ESHA policies and impacts until the permitting phase is inconsistent with CEQA's policy of integrated review. (Pub. Res. Code § 21003, subd. (a).) Each public agency is required to comply with CEQA and meet its responsibilities. (CEQA Guidelines, § 15020.) Lead agencies in particular must take a comprehensive view in an EIR. (Pub. Res. Code § 21002.1, subd. (d).) State Parks deferral of a full consideration of the ESHA constraints and the potential difference in interpretation of those constraints with the Commission, failed to comply with these CEQA requirements.

In order to serve the important purpose of providing other agencies and the public with an informed discussion of adverse impacts, mitigation measures, and alternatives, an EIR and the CCC staff report must lay out any competing views put forward by the lead agency and other interested agencies. (Pub. Res. Code § 21061.) The CEQA Guidelines require an EIR and CCC staff report to identify "[a]reas of controversy known to the lead agency including issues raised by [other] agencies." (CEQA Guidelines, § 15123, subd. (b)(2).) Even if the ultimate findings regarding ESHA will be made by the CCC, both the commissioners and interested members of the public are entitled to understand the differing agency viewpoints and disagreements between CCC staff and State Parks on ESHA policies. The requirement that State Parks spell out its differences on ESHA with the CCC staff " 'helps [e]nsure the integrity of the process of decision by precluding stubborn problems or serious criticism from being swept under the rug. ... [W]here comments from responsible experts or sister agencies disclose new or conflicting data or opinions that cause concern that the agency may not have fully evaluated the project and its alternatives, these comments may not simply be ignored. There must be good faith, reasoned analysis in response.' " "[F]ailure to disclose information called for by CEQA may be prejudicial 'regardless of whether a different outcome would have resulted if the public agency had complied' with the law (§ 21005, subd. (a))."

For these reasons, the FEIR and subsequent CCC staff report are inadequate under CEQA, its goals and substantive standards.

14. The Coastal Act Does Not Authorize a "Master Permit."

State Parks is seeking a "master CDP" for all activities over a multi-year period when the FEIR admits that Parks does not currently know the details of all actions it plans to take over that multi-year period, e.g., the FEIR states ". . . the exact location of potential Dust Control Program activities is not yet known."

The Coastal Act does not authorize the issuance of a "master CDP." Nor does the Coastal Act authorize a "master CDP" or any CDP for future, undefined development activities over a multi-year period.

15. The Commission May Not Approve the CDP Application Because the Dust Control Measures (and Also the Expanded Dust Control Measures Pushed by the CCC) Will Cause a Take of the Threatened Western Snowy Plover and State Parks Does Not Have a Federal Incidental Take Permit Covering The Dust Control Measures or Program.

The western snowy plover is listed by the U.S. Fish and Wildlife Service as a "threatened" species under the federal Endangered Species Act. Section 9 of the federal Endangered Species Act, and implementing regulations, prohibit take of a species listed as endangered or threatened.

The FEIR admits that some of the activities of the Dust Control Program "may occur in the vicinity of" the western snowy plover. Vegetation or seasonal dust control measures could be installed anywhere within the 690-acre Dust Program Area, which immediately borders plover critical habitat. The FEIR also admits that the expended program pushed by APCD would actually occur within the plover critical habitat, and within California least tern habitat.

The FEIR states that Dust Control Program installation and work activities will occur in the snowy plover's *non-nesting* season only "to the extent feasible." In other words, Dust Control Program installation and work activities *may occur* in the vicinity of the snowy plover *during nesting season*. The FEIR fails to disclose that this significantly increases the possibility of unlawful "take" of the western snowy plover, which is a violation of CEQA. The CCC staff report does not remedy this deficiency.

As a mitigation measure, the FEIR provides that "No more than three days prior to starting work in the vicinity of western snowy plover and California least tern habitat from March 1st to September 30th, a qualified biologist shall survey for western snowy plover and California least tern nests. If nests are found during this survey, [State Parks] shall establish a minimum 300-foot buffer zone around

the nest." This mitigation measure is inadequate because it is reasonable to assume that during nesting season, a snowy plover may nest in the Dust Control Program area during the 3-day gap between the species survey and the work activities. The FEIR fails to disclose the heightened risk of take during this gap period. In addition, the FEIR is internally inconsistent. In the core discussion of plover mitigation, State Parks states that surveys will be performed "no more than seven (7) days prior to the start of work." Thus, it is unclear whether the mitigation requires no more than a 3 day gap or no more than a 7-day gap. Seven days provides an even greater window to allow plovers to nest in the work area without detection, and, as a result, substantially increases the risk of take. This is not discussed or analyzed in the FEIR and it renders the FEIR inadequate because the take of a federally-protected bird species is a very significant environmental impact.

As a mitigation measure, the FEIR provides that if nesting activity is initiated within 300 feet of in-progress or installed dust control activities, State Parks will stop all active work and install a additional fencing. It also says that no additional dust control activities shall be performed within 300 feet of such exclosure until after the nest fate is determined. However, the FEIR fails to include any mitigation measures to ascertain whether the additional fencing and buffer achieves the objective of no take of the snowy plover. Under federal law, "take" including interference with breeding activities resulting in death. Since work activities will be allowed to commence after the fence is installed, the work activity could still interfere with plover breeding activity during breeding season even with a 300-foot buffer. Therefore, the mitigation measure is inadequate and the FEIR also is inadequate in that it fails to disclose this heightened risk of take if a nest is located near the work activity.

As a mitigation measure, the FEIR provides "A biological monitor shall be available to monitor for the presence of nesting activity throughout the installation of all dust control measures. The on-site biological monitor shall have the authority to halt any action that might result in impacts to individual birds or nests. If work is stopped, the USFWS shall be notified immediately by the on-site biological monitor." This mitigation measure is inadequate in several respects. The measure simply states that the biological monitor will "be available," not that he or she will actually monitor nests near the work activities. Also, while the FEIR states that the biological has the "authority" to halt activity, it <u>does not require</u> the biologist to halt the activity. Thus, the activity could continue and result in a take of the snowy plover. The mitigation measure is inadequate and the FEIR is deficient in failing to disclose the heightened risk of take as a result of this deficiency.

The FEIR leaves open the possibility that "regular monitoring of active nests by a qualified biologist" may not be "feasible." Yet, the FEIR provides no alternative mitigation measure in that event except for "non-listed" birds. No additional protection is provided for listed and protected birds like the snowy

plover, leaving them vulnerable to take if regular monitoring is not performed because it is not "feasible."

As another mitigation measure, the FEIR provides "Program activities that could facilitate predator movement into known or potential nesting areas for plover and tern shall be minimized." Friends' biologist alerted State Parks that adding 100 acres of new vegetation provides perfect cover for bird predators such as red foxes and coyotes. The FEIR provides no evidence that it has "minimized" vegetation, but rather includes up to 100 acres of vegetation as critical part of the dust control measures being implemented. The FEIR fails to explain at all how State Parks plans to "minimize" one of the key dust control measures and therefore is the EIR analysis is inadequate.

Also under CEQA and the Coastal Act, the mitigation measure of pre-construction surveys is inadequate as a matter of law because the FEIR fails to define and specify what additional actions the biologist must take other than setting up buffer areas around nests. There is no requirement that the buffer areas must insure no take of protected bird species, and there is no required action if the buffer areas fail to protect the plover and tern nests other than consulting the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife "for additional avoidance and minimization measures." The FEIR fails to comply with CEQA by including the vague mitigation measure of "consulting" with the resources agencies with no explanation of what specific actions would be taken to address the impact to the protected birds. The FEIR even admits that active and on-going surveys and monitoring may not be "feasible," but then fails to identify any additional mitigation measures that would apply to listed and protected bird species such as the plover and tern.

Finally, the FEIR includes revised mitigation measures such as the removal and/or relocation of any specific structures found to contribute to California least tern and western snowy plover predation. The problem with this mitigation approach is that by definition it waits until there *has been an actual take of a California least tern or western snowy plover* before it requires action to protect the species from *further* take. That violates CEQA as well as the federal Endangered Species Act, the California Endangered Species Act and state statutes protecting "fully protected species." It also demonstrates on its face that the Dust Control Program does <u>not</u> prohibit all take of listed and protected species such as the western snowy plover. Therefore, the FEIR is also deficient in that it fails to discuss the need for an incidental take permit from the U.S. Fish and Wildlife Service for a Dust Control Program that implicitly acknowledges there may be take of a threatened species. Further, since a prerequisite to any incidental take permit is a habitat conservation plan and compliance with the National Environmental Quality Act, the FEIR also is deficient by failing to make these disclosures.

For all the reasons stated above, the FEIR is inadequate under CEQA. The Commission has simply incorporated these mitigation measures into the CDP

process, and the staff report contains little or no additional analysis. Thus, the Commission has carried forward these same deficiencies, and the staff report thus also fails to comply with CEQA and/or its goals and substantive standards.

"[F]ailure to disclose information called for by CEQA may be prejudicial 'regardless of whether a different outcome would have resulted if the public agency had complied' with the law (§ 21005, subd. (a))." 'A prejudicial abuse of discretion occurs if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.' " That happened here. Also, the mitigation is inadequate because it fails to prevent take of the western snowy plover and the FEIR and staff report suppresses that information.

But, most importantly, the underlying data and analysis in the record shows that the dust control measures, whether those proposed by State Parks, or the expanded measures pushed by the Commission and the APCD, will or will likely result in take of the plover, either directly or indirectly through greater predation, edge effects and habitat modification. Rob Roy Ramey concludes that additional take will occur as a result of the dust control program or the expanded dust control program.

Section 9 of the federal ESA prohibits incidental take of plover unless State Parks has an incidental tale permit from FWS. State Parks has no such permit and thus the Commission may not approve the dust control measures (or the expended measures) unless and until such a permit is issued by FWS, or must condition the approval on obtaining such an approval and federal take permit.

16. The Commission May Not Approve the CDP Because the Mitigation Is Inadequate to Prevent Take of a Fully Protected Species Under California Law.

State law prohibits the "take" of a species deemed to be "fully protected." Fish & G. Code, § 3511 ("a fully protected bird may not be taken or possessed at any time.") Pursuant to Fish & G. Code, § 3511(b)(6), the California least tern is a "fully protected species."

The California Department of Fish and Wildlife alerted State Parks that the habitat within and in the vicinity of the Dust Control Program likely provides nesting habitat for shorebirds including the California least tern. The Department of Fish and Wildlife advised State Parks that the EIR must include adequate measures to prevent "take" of "fully protected species," such as the California least tern, during construction, operation, and maintenance of the Dust Control Program. The Department also expressed concern that certain Dust Control Program components such as monitoring equipment could provide perching habitat for predatory avian species that could prey on California least tern and/or western snowy plover.

The EIR admits that California least tern are known to nest just to the west of the Dust Control Program area, and within the area that will be covered in the expanded project area pushed by the CCC.

State Parks asserts that the dust control activities will avoid "active" California least tern nests, but the FEIR shows there will be a 3 or 7 day gap between surveying for the species and the commencement of work, during which time least tern nesting is possible. State Parks asserts that the revised FEIR requires State Parks, "in the vicinity of California least tern habitat," to "perform work activities outside the nesting season for these species, *if feasible*." Given the long nesting season, it is very likely that State Parks will perform work activities during the nesting season. The FEIR's only answer is that surveys will be performed, but as noted previously the significant time gaps between surveys and work commencement will allow for tern nesting to go undiscovered before work is commenced. In that situation, there will be no buffer area established by the biologist, and in fact, the nest and nesting birds may be destroyed by Program work activities without being discovered. It is thus not reasonable to presume or to conclude that these limited mitigation measures will preclude prohibited take of the California least tern, thus violating state law prohibiting take of a "fully protected" bird. State Parks' finding that there will not be take of the California least tern because of these limited mitigation measures is not supported by substantial evidence, and fails to fully disclose impacts.

The FEIR's mitigation includes the removal and/or relocation of any specific structures *found to contribute* to California least tern and western snowy plover predation. The problem with this mitigation approach is that by definition it waits until there has been an *actual take of a California least tern or western snowy plover* before it requires action to protect the species from further take. That violates CEQA, its goals and substantive standards, as well as Fish & G. Code, § 3511 and related statutes protecting "fully protected" species. It also demonstrates that the Dust Control Program does not prohibit *all* take of fully protected species such as the California least tern.

For all the reasons stated above, the FEIR is inadequate under CEQA. The Commission has simply incorporated the EIR analysis and these mitigation measures into the CDP process, and the staff report contains little or no additional analysis. Thus, the Commission has carried forward these same deficiencies, and the staff report thus also fails to comply with CEQA and/or its goals and substantive standards.

For all the reasons stated above, the CCC staff report is inadequate under CEQA.

"[F]ailure to disclose information called for by CEQA may be prejudicial 'regardless of whether a different outcome would have resulted if the public agency had complied' with the law (§ 21005, subd. (a))." 'A prejudicial abuse of

discretion occurs if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.' " That happened here.

17. The Commission Abused Its Discretion By Illegally Deferring Mitigation for the Loss of SVRA Recreation Land Due to the Dust Control Program and Activities.

The EIR admitted that the Dust Control Program would result in a significant impact as a result of the loss of a substantial amount of acreage for coastal recreational opportunities, including off-highway vehicle recreation and camping.

The EIR included only one meaningful mitigation measure intended to address this adverse impact. The EIR proposed identifying areas to provide additional camping or OHV recreation opportunity and diligently pursuing opening those areas to OHV recreation with existing staff levels and funding considerations. In the FEIR, State Parks added the constraint that it would cease any attempts to implement this mitigation three years after the implementation of the Dust Control Program.

An agency may defer formulation of details of a mitigation measure pending further study and investigation if there is a reasonable basis for it to conclude that the impact will be adequately mitigated. Here, there is no reasonable basis for determining that this impact will be mitigated. In fact, State Parks admits that it may never implement any part of this mitigation measure in any form. To the extent that the Commission accepts this mitigation, but defers it, that deferral violates the Coastal Act, CEQA, its goals and substantive standards.

Also, a deferred mitigation measure is legally inadequate under CEQA if the agency fails to identify steps that might be taken once the additional investigation is completed, and/or if the agency if no reason for deferral is given. Here, Friends presented maps to State Parks and the CCC (submitted with this comment letter) showing specific areas that could be opened immediately to address the loss of coastal recreational lands at Oceano Dunes SVRA. State Parks articulated no reason in the record why these *specific* areas could not be opened immediately upon the implementation of the Dust Control Program, nor has the Commission. This also constituted new significant information that compelled re-circulation since the information showed a detailed mitigation plan that would clearly lessen the significant impacts to coastal resources of the Dust Control Program.

18. Special Condition 1(c) Is Unduly Vague and Is Inconsistent with the Coastal Act, the Fully Protected Species Legislation and/or the Endangered Species Act.

Special Condition 1(c) is unduly vague and thus void. It purports to extend the dust control project area beyond that requested by State Parks, and as defined in the EIR, to an area that "may extend" out of those boundaries "as necessary to meet CARB or APCD requirements . . . ." The condition fails to tie this extension to any defined objective standards. It doesn't even appear that the CARB or APCD requirements it refers to exist as of the date of the Commission hearing on the CDP application. It fails to consider whether such an extension would comply with the Coastal Act requirements including public access, preservation of recreational uses and ESHA. It fails to evaluate whether such an extension would adversely impact the western snowy plover, California least tern (a fully protected species) or other sensitive species or their respective habitats. Special Condition 2's annual review doesn't prevent these violations because it fails to require information any assessment of conformity with the Coastal Act or endangered and sensitive species protections (but instead only requires a report of the past year's impacts on coastal resources). Such a scheme violates the Coastal Act and endangered and sensitive species protections.

Special Condition 1(c) is further inconsistent with the Coastal Act's protection of visual resources. The condition bars tree planting if it would interfere with public views while the Commission's approval simultaneously ignores the impacts to visual resources by allowing rows and rows of artificial bright orange wind fencing that adversely impact visual resources in the dunes. Even more hypocritically, the Commission routinely objects and prevents innocuous fencing in housing, hotel and resort developments, while here turning a blind eye to some of the most visually intrusive fencing one could possibly design. This is a prejudicial abuse of discretion.

19. Special Condition 4 Creates a Conflict of Interest Between the Commission and State Parks That Bars the State Attorney General From Representing Either the Commission or State Parks in Any Litigation Filed to Challenge the Issuance of this CDP.

Special Condition 4 requires State Parks to pay for the defense of any litigation challenging the Commission's issuance of the CDP, but at the same time provides that "the Coastal Commission retains complete authority to conduct and direct the Commission's defense of any such action against the Coastal Commission."

Given the many conflicting legal positions between the Commission and State Parks identified herein and apparent when comparing the EIR and the CCC staff report, the State Attorney General is ethically and legally prohibited from

representing both the Commission and State Parks in any litigation challenging the Commission's action in this matter.

Special Condition 4's requirement for State Parks' to foot the bill adds additional ethical concerns.

20. The Commission's Staff Report Is Misleading Because It Includes Only the Figure 4 Buffer Map, and Not the Corresponding LCP Narrative.

The Commission's Staff Report is misleading because it includes only the Figure 4 map from the SLO County LCP, and does not include the corresponding narrative from the LCP. Under California law, narrative in a general planning document takes precedence over a conflicting map in the LCP. The LCP narrative makes clear that the majority of the La Grande Tract is open to OHV riding, and is not designated as buffer. In this vein, the SLO County Planning staff has repeatedly issued letters stating that the Figure 4 buffer map was added to the LCP in error and that a map tracking the LCP narrative was intended to be included when the LCP was adopted.

Sincerely,

/s/

Tom Roth

Cc: Jim Suty, President, Friends of Oceano Dunes
Mat Fuzie, State Parks (letter only)
Jack Ainsworth, Executive Director, CCC (letter only)
Coastal Commissioners (letter only)

Attachments
Rob Roy Ramey Report, September 10, 2017
Rob Roy Ramey Comments on State Parks' EIR
Rob Roy Ramey Comments on Proposed Biological Mitigation
Scientific articles re biological resources
Maps re Proposed Recreation Land Mitigation Areas by Friends

September 10, 2017

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Re: Review of Coastal Commission Staff Report for Agenda Item 23b (September 14, 2017); Application No. 3-12-050 (California Department of Parks and Recreation ODSVRA Dust Control, Grover Beach & Oceano, San Luis Obispo Co.); and Underlying EIR Prepared by State Parks

Dear Tom,

You have asked that I provide comments in response to California Coastal Commission Agenda Item 23b (September 14, 2017); Application No. 3-12-050 (California Department of Parks and Recreation ODSVRA Dust Control, Grover Beach & Oceano, San Luis Obispo Co.). This letter identifies key issues with the Commission's Staff Report proposal to expand the permitted dust control activities beyond the preferred alternative identified in Draft and Final Program Environmental Impact Report (DEIR, FEIR) issued by State Parks.

The Commission staff report fails to address the adverse impacts of expanding the dust control measures to federally listed endangered species, specifically "take" and adverse modification of critical habitat of the western snowy plover and take of the California least tern. This letter updates and includes by reference my previous comments submitted on the California Department of Parks and Recreation's Draft Program Environmental Impact Report for the Oceano Dunes SVRA Dust Control Program dated August 1, 2016 (attached) and Disagreements with the Final Program Environmental Impact Report (attached).

The APCD and Commission Staff seek, without renewed comprehensive analysis of adverse impacts to endangered species: 1) the expansion of boundaries of the proposed dust mitigation program as set forth by State Parks in the DEIR and FEIR, including allowing dust control measures and activities within foredunes and beach areas that are designated as critical habitat for the snowy plover and during the nesting season for snowy plovers and allowing those measures in habitat for the California least tern; 2) authorization to install, in any given year, any amount of dust mitigation of any type, including installation within critical habitat for the plover or habitat for the tern; 3) planting of new vegetation immediately adjoining, very near (within 100 or 200 feet) or literally within snowy plover critical habitat and/or/ least tern habitat, and 4) expanded wind fencing in a similarly ad hoc manner and in areas that will adversely impact the plover and tern. Simply put, the Commission proposes a *carte blanche* approval for dust monitoring and control on an as needed basis as determined by the APCD or CARB, but without additional impact analyses or mitigation for the threatened snowy plover or endangered California least tern.

I find especially disturbing the recommendations of Commission Staff Biologist, L. Koteen (Exhibit 10), that consideration of impacts only be considered in light of emissions and that dust control activities be permitted close to shore, which means *within* designated critical habitat for the western snowy plover (i.e. "closest to shoreline"). Koteen wrote:

> I echo the recommended changes raised in the letter submitted by APCD on August 7th of this year, namely, that mitigation measures not be restricted to the area outlined in DPR's proposed mitigation area as outlined in Figure 2.8 of the CDP application, (copied here as Figure 4). In Figure 4, we observe that the areas closest to the shoreline have been designated as a "high biological sensitivity area". Yet, OHV use is allowed in these areas. In our view, greater protection for biological resources would be afforded if dust abatement measures were implemented in these locations, similar to the protections provided by the seasonal snowy plover exclosure.

The "greater protection of biological resources" being referred to by Koteen are obviously not those of the threatened snowy plover and endangered California least tern. Both of these species nest within the snowy plover exclosure and designated snowy plover critical habitat. However, the Commission undertook little or no analysis of the adverse on impacts of proposed expanded dust control activities on these species within designated snowy plover critical habitat.

As I emphasized previously, the central issues regarding snowy plovers and California least terns involve the significant negative impact of significantly expanding vegetation cover in dune areas adjacent to designated critical habitat because it will provide cover and shelter to mammalian known and historical predators of snowy plover and California least tern nests, broods, and adults. Data dating back decades shows that these predators have killed or harmed plovers in this area. Studies of the behavior of these predators and the behavior of western snowy plover and least tern make it highly likely that adding 100-183 acre of vegetation islands in this area adjacent to plover critical habitat and tern habitat will result in increased take of these protected bird species. Certainly, adding those vegetation areas within the foredunes and critical habitat of the snowy plover, as proposed by APCD and the Commission here, will result in take and adverse modification of critical habitat. I would expect a similar result as a consequence of allowing dust control measures in tern habitat in this area. The Commission suggests that dust control measures would result in less impact than OHV use. But the Commission presents no evidence of that. State Parks has extensive plover protection plans and measures in place that address OHV impacts. Those programs have been quite successful, as the data shows that despite up to 2 million visitors per year, there has been over time approximately one incidental plover take per year. Overall, the data shows that Oceano Dunes is one of the most, if not the most successful breeding location for plovers on the entire coast of the western U.S. By contrast, the data shows that take as a result of predation is by far the greatest problem for plovers at Oceano Dunes. This is further confirmed by significant take of plover by predators at the adjacent national wildlife

refuge. Thus, introducing significant extensive vegetative cover near or actually in plover critical habitat or tern habitat will likely result in much greater incidental take than the average of one incidental plover take per year due to OHV activities. This is also true because the OHV activity keeps predators at bay, which may have the secondary benefit of protecting the plover. The Commission's opinion, therefore, is not supported by data or historical experience at Oceano Dunes. The Commission's opinion is also contradicted by State Parks' analysis in the EIR.

As a result, planting immediately adjacent to critical habitat (or actually in critical habitat as proposed by the Commission) significantly degrades the value of that habitat, such that it will result in an adverse modification to it. There will likely also be "edge effects" resulting from the introduction of efficient predators immediately adjacent to critical habitat. (See, e.g., Alverson, William, et al., Wild Forests Conservation Biology and Public Policy, 1994, pp. 64-75 ["Predators favored by edge habitats, such as raccoons . . . penetrate adjacent forest stands to distances of up to several hundred meters, altering the prospects of survival for many organisms, including . . . birds."].) This same effect can be expected by adding large vegetation islands immediately adjacent or within hundreds of feet of plover critical habitat.

Regrettably, the Staff Report advocates for *ad hoc* and unspecified dust control activities even within critical habitat, with any quantification of type, duration, or impact. With vegetation islands so close and so extensive, and with ad hoc dust control activities occurring within critical habitat and potentially during the nesting season, without full-time biological monitor empowered to halt harmful activities (they cannot be everywhere in the proposed borderless project area at once), this dust control project will inevitably result in take of listed species in violation of section 9 of the federal ESA.

The Staff Report and APCD clearly these impacts to listed species, putting regulatory actions to theoretically reduce PM10 emissions first and in such a way that their expanded dust control program does not have to consider or mitigate any expanded impacts to either federally listed endangered species or their critical habitat.

Sincerely,

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Comments of Dr. Rob Roy Ramey, September 10, 2017

Disagreements with the FEIR regarding Exhibit 6 of Friends of Oceana Dunes comments on the Draft EIR (previous Dr. Rob Roy Ramey biological analysis).

A) I find that the FEIR misrepresented Exhibit 6 in the response to comment K65. The FEIS states:

> *The biological analysis states the proposed Dust Control Program will increase predation on western snowy plovers and California least terns. Although the biological analysis does not explicitly state why this is true, the basis for this statement appears to [be] located on page 4 of the analysis, which states, "It is readily apparent from Figure C.1 from the 2015 plover and tern nesting report that these species avoid nesting near vegetated areas. And, figures C2 to C10 show that, virtually all depredated nests are in or adjacent to vegetated areas."*

However, contrary to the FEIS's assertion above, the following excerpt from Exhibit 6, laid out the reasons ***why*** the dust control's increased vegetation planting would likely increase predation on western snowy plovers and California least terns: increased vegetation leads to increased habitat for mammalian predators, and therefore, increased risk of predation from them.

> *The Draft EIR proposes planting 100 acres of vegetation on dunes to mitigate fugitive PM10 dust. See, e.g., DEIR, Table 2-3. Such extensive vegetation is highly likely to have a significant negative impact on the local breeding populations of western snowy plovers and California least terns due to the likely increase in predators and predation. It also is likely to result in adverse modification of designated western snowy plover critical habitat through the facilitation of mammalian predator movements. This result is likely due to the proposed vegetation's close proximity to the existing western snowy plover critical habitat and the proximity to the plover and California least tern nesting and foraging areas. A new 100 acres of vegetation will substantially expand denning, resting, and hunting habitat for coyote, red fox, skunk, opossum, and raccoon, all of which are documented to occur in Oceano Dunes and all of which are known to prey on snowy plover or least tern nests, chicks, and/or adults. (See, annual Oceano Dunes SVRA reports; see also California Least Tern Recovery Plan at p. 16 [listing these species as common predators].)*
>
> *The proposed program could turn the currently productive Oceano Dunes SVRA into a "population sink" for these birds.*

B) The FEIR attempted to ignore the risks of creating predator habitat both abutting, and close to, western snowy plovers and California least tern nesting areas, and western snowy plover critical habitat.

While the FEIR acknowledges that planting vegetation could increase the risk of

predation on plovers and terns (if they were not able to detect predators), the FEIR in fact ignored the risk by proposing to plant vegetation right up against critical habitat.

Moreover, the FEIR also acknowledges that, their vegetation planting will provide more habitat for potential predators.

> *Planting 100 acres of vegetation could provide some additional cover habitat for potential mammalian predators, ...*

However, in the same sentence, the FEIR seeks to dismiss the increased risk of creating predator habitat by claiming that the predators would have to cross "open sand areas" but fails to acknowledge that the distance across those open sand areas would be reduced or eliminated entirely by filling in existing vegetated areas and creating new ones. But the EIR shows that in many locations the vegetation islands may be immediately adjacent to critical habitat and in instances where there are open sand area gaps, they are typically merely 100-200 feet, which is not much of an obstacle to predators.

By completely ignoring the basic tenet of ecology, that providing more habitat provides for more animals to exist in an environment (in this case, predators), the FEIR concludes the opposite:

> *... and would not significantly increase the number of potential predators in the Program Area or the amount of predation on California least tern and western snowy plover*.

This is not supported by the data or what we know about predator and plover behavior.

C) I disagree with the FEIR that Exhibit 6 does not contain new scientific information.

As discussed above, Exhibit 6 specifically "connected the dots" in showing the reasons why increasing vegetation plants adjacent to western snowy plovers and California least terns nesting areas, would increase mammalian predator use of the area (by creating habitat for resting, denning, and hunting, as well as connectivity between vegetation patches); and therefore, increase the likelihood of predation on these endangered species.

Additionally, Exhibit 6 pointed out that the dust control vegetation plantings would result in an adverse modification of the critical habitat of the western snowy plover: modifying adjacent habitat in the dust control program area in such a way that it would facilitate use by mammalian predators, thereby increasing predation risk.

The FEIR, however, attempts to sidestep the issue by claiming that:

1) the vegetation plantings and project area are outside of critical habitat,
2) they could not find any publication showing that increased vegetation leads to increased predation on plovers or terns, and
3) that any additional risk is adequately addressed with mitigation in the FEIR.

Regarding the first assertion, the proposed program would expand vegetation plantings in a way that would create vegetated predator habitat directly abutting critical habitat in the northwestern corner of the program area. That vegetated habitat would also be linked by newly created contiguous vegetated habitat or expanded "stepping stones" of vegetated habitat extending south and east to the eastern edge of the program area, where it meets continuously vegetated habitat. Thus, the FEIR inadvertently provides mammalian predators both an access corridor and refuges that would facilitate movements into plover and tern habitat, and predation on them. At the northern end of the program area, predators could literally be seconds away from plovers and terns, and their nests in critical habitat. It is undeniable that such close proximity would increase the probability of predation on these protected species. That increased risk of predation would degrade the quality of the plover's critical habitat, resulting in direct adverse modification to that critical habitat, due to the dust program's indirect actions nearby but just outside of critical habitat.

Regarding the second claim, just because the FEIR authors could not find a paper in their literature search describing increased predation on plovers or terns resulting from nearby vegetation, does not negate the logical connection between the two, or eliminate the risk. Predation is difficult to witness in the field, however, there is a body of published research on habitat selection by shorebirds, including western snowy plovers, that shows they avoid vegetation to reduce predation risk (i.e. Muir and Colwell 2010; Brindock and Colwell 2011 - cited in the FEIR; Fernandez and Lank 2006 - cited by Brindock and Colwell 2011).

And, as the proposed dust control vegetation plantings adjacent to plover and tern habitat have not been undertaken before, it can be expected that experimental fieldwork testing their effect on predation would be absent from the literature.

Regarding the third claim, current predation mitigation efforts are not as effective as claimed in the FEIR because:

1) plovers and least terns are still preyed upon (TRT 2015, Attachments),
2) exclosure fences are in disrepair (TRT 2015, Attachments), and
3) coyotes are still found within predator exclosures (on 48 days in the southern exclosure and North Oso Flacco in 2015 alone, TRT 2015 Attachments).

D) The FEIR did not address the comment from Exhibit 6 that no additional funding or effort was specifically allocated in the FEIR to provide for predator control in the proposed 100 acres of vegetation that would be planted.

The comment is provided below.

> The EIR fails to acknowledge the extent of impacts to western snowy plovers and California least terns from the proposed project. Instead, vague assurances are

provided in the EIR that *"Program activities that could facilitate predator movement into known or potential nesting areas for plover and tern shall be minimized."* However, no explanation is provided. No analysis was provided of the likelihood that the project will result in "take" of listed species in violation of section 9 of the ESA. Nor is any detail provided about the *"additional resources [that] would be secured to reduce predator presence and impacts."* This vague statement, with no criteria or standards, fails to meet the minimum requirements under CEQA, the Coastal Act or the ESA. If "take" is anticipated, State Parks would be required to obtain an incidental "take" permit from FWS prior to implementing the project. Prior to obtaining such a permit, State Parks would be required to complete a habitat conservation plan, or HCP. Prior to approval of an HCP, FWS would need to undertake and complete an environmental impact statement under the National Environmental Policy Act, or NEPA.

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Research Article

Habitat Selection by Western Snowy Plovers During the Nonbreeding Season

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ABSTRACT Conservation of rare populations requires managing habitat throughout the year, especially during winter when northern populations may be limited by food and predation. Consequently, we examined distribution of nonbreeding western snowy plovers (*Charadrius alexandrinus*), including individually marked birds that were year-round residents and others that were migrants, in coastal northern California. Over 2 years, banded plovers exhibited high site faithfulness, occupying small linear stretches of beach (752 ± 626 m). Sites occupied by plovers had more brown algae (e.g., *Macrocystis*, *Nereocystis*, *Postelsia*, and *Fucus*) and associated invertebrates (e.g., amphipods, and flies), were wider, and had less vegetation than unoccupied sites. Our findings suggest that wintering plovers select habitats with more food and where they could more easily detect predators. Maintaining habitat with attributes that support abundant food (i.e., brown algae) and reduce predation risk (i.e., wide beaches, limited obstructive cover) may be important to individual survival and maintaining the Pacific Coast population of snowy plovers. Protecting occupied sites from human disturbance, which adversely alters nonbreeding habitat (i.e., beach grooming) and directly causes mortality, may be essential for conserving the Pacific coast population of the snowy plover, and it may benefit other shorebirds. © 2011 The Wildlife Society.

KEY WORDS California, *Charadrius alexandrinus*, distribution, disturbance, food, habitat, Humboldt County, nonbreeding, predation, snowy plover.

Recent evidence indicates that many shorebird populations worldwide are in decline (Morrison et al. 2006, Delaney et al. 2009). Survival is the most critical vital rate influencing shorebird population growth, and the nonbreeding season is the likely interval during the annual cycle when mortality is highest (Evans and Pienkowski 1984, Hitchcock and Gratto-Trevor 1997, Sandercock 2003). The main causes of mortality for shorebird wintering at northern latitudes are food shortages and predation by raptors (Page and Whitacre 1975, Evans and Pienkowski 1984, Cresswell and Quinn 2004). Consequently, strong selective pressures shape choices of habitat by individual shorebirds during winter.

During the nonbreeding season, spatial distribution of shorebirds is correlated with the distribution and availability of food (e.g., Bryant 1979, Colwell and Landrum 1993, Gill et al. 2001*a*). Additionally, danger posed by predators, especially raptors, strongly affects the habitat choices of individuals at winter and migratory stop-over sites (Fernández and Lank 2006, Sprague et al. 2008). Shorebirds select open habitats with less obstructive cover (Pomeroy 2006); individuals occupying habitats that afford greater concealment to predators are associated with higher mortality rates (Van den Hout et al. 2008). In short, shorebirds aggregate in areas of high food availability and where birds are able to detect predators more readily. Human activity may act similar to predation by causing shorebirds to abandon habitat where disturbance is chronic and intense, as evidenced by negative correlations between shorebird abundance and anthropogenic disturbance (Pfister et al. 1992, Kirby et al. 1993).

The process through which shorebirds select habitat is unlikely the outcome of a single factor (Whitfield 2003). Yet, most studies of shorebird distribution have examined food, predation, or disturbance (Colwell and Landrum 1993, Kirby et al. 1993, Creswell and Whitfield 1994, Lafferty 2001), with few studies evaluating more than one of these factors (Gill et al. 2001*b*, Pomeroy 2006). Consequently, the influence of food, predation, and disturbance on shorebird distribution is poorly understood. Understanding this relationship may be especially important for managing threatened and endangered species.

The snowy plover (*Charadrius alexandrinus*) breeds and winters along the Pacific coast of North America from Washington south through Baja California, Mexico. Individual variation in migratory behavior make this a partial migrant population, consisting of a mix of permanent residents and migratory birds (Stenzel et al. 1994, Colwell et al. 2007). Plovers winter and breed in the same habitats, mostly sandy, ocean-fronting beaches. In 1993, the United States Fish and Wildlife Service listed the coastal population segment as threatened under the federal Endangered Species Act; a recovery plan was finalized in 2007 (U.S. Department of Interior 2007). Several factors are thought to limit the

Received: 22 January 2010; Accepted: 7 September 2010

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population through their effects on breeding productivity. Consequently, various management practices have been used to ameliorate the negative effects of the limiting factors, including restoration of coastal dune habitats to remove invasive plant species (e.g., European beachgrass [*Ammophila arenaria*], ice plant [*Carpobrotus chilensis*]) and restrictions on human activities that disturb plovers or compromise egg and chick survival. Little attention, however, has been given to understanding the nonbreeding ecology of plovers, and few management actions target this segment of the annual cycle.

We studied a small, marked population of snowy plovers in coastal northern California. We examined space use and habitat selection by plovers along coastal beaches during the nonbreeding season. We predicted that plovers would occupy small areas and select habitats of high food availability, where the risk of predation by raptors was reduced, and anthropogenic disturbance was low.

STUDY AREA

We studied snowy plovers along 65 km of ocean-fronting beach from Centerville to Stone Lagoon in Humboldt County, California (Fig. 1), an area that contained the highest density of snowy plovers in northern California during both the breeding and nonbreeding seasons (Brindock 2009, Colwell et al. 2010). The winter climate of the study area was characterized as cool and moist; Humboldt Bay (approximate center of study area) averaged 10 °C and 97 cm of rainfall during winter, with an average tide range of 1.5 m. The study area encompassed nearly all suitable habitat (i.e., occupied and unoccupied sandy beach) in Humboldt County used by snowy plovers that bred in coastal habitats over the past 9 years (Colwell et al. 2010), as well as other potentially suitable habitat for wintering snowy plovers; we did not survey rocky intertidal habitats. Beaches were characterized by four distinct habitat types: 1) foreshore, consisting of the tidally influenced area below the high tide line, 2) wrack, made up of debris deposited from high tides, 3) backshore, extending inland from the foreshore to the foredune, and 4) foredune, extending inland from the backshore and identified by vegetation line or the crest of the dunes. Beach vegetation included European beachgrass, native dune grass (*Leymus mollis*), sand-verbena (*Abronia* spp.), ice plant, and sea rocket (*Cakile maritima*). Debris consisted primarily of brown algae (e.g., *Fucus*, *Egregia*, and *Postelsia* spp.), eelgrass (*Zostera marina*), woody debris, bivalve shells, decapod carapaces, stones, dead vegetation, and garbage.

Figure 1. Study area and locations of nonbreeding snowy plovers in Humboldt County, California, October 2007–February 2009.

METHODS

Field Methods

We surveyed the 65 km of beach habitat 16 times between October and February, the winter interval that spans the time of minimal movement of plovers, for 2 years (2007–2008, 2008–2009). One principal surveyor did >80% of observations; four other observers that had extensive field experience surveying plovers in the study area during the breeding season conducted the other surveys. Observers surveyed between 0700 hours and 1400 hours, walking the beach along the wrack, which provided a view of other habitats (i.e., foreshore, backshore) of the ocean-fronting beach, and scanning for plovers with binoculars and spotting scopes. The annual schedule resulted in the complete survey of the 65 km study area in approximately 2 weeks, which we repeated continuously between 1 October and 29 February. When observers detected a plover they recorded its location using a personal digital assistant (Axim X50, Dell, Inc., Round Rock, TX) with an auxiliary Global Positioning System (GPS) attachment. If a plover was in a flock (≤50 m from a conspecific), observers recorded one location

for the flock, as well as the number of plovers, band combinations, and behavior (roosting or feeding). Many plovers were marked with unique color band combinations as part of a long-term study (Colwell et al. 2007, 2010; Mullin et al. 2010).

We used 3-m-radius ground plots and 500-m-radius point counts to characterize habitat; these same methods are used while monitoring breeding plovers in the study area (Colwell et al. 2010). During surveys observers walked through the wrack, stopping at 10-min intervals (as determined by preset alarm) to sample ground plots, with the observer's location serving as the center point. Within each ground plot observers visually estimated: 1) percent ground cover of brown algae, eelgrass, small woody debris, stumps, bivalve and crustacean shells, stones, live vegetation, dead vegetation, and garbage on an ordinal scale (0 = 0%, 1 = 1–10%, 2 = 11–50%, 3 = 51–90%, 4 = > 90%); 2) the number of cover objects and invertebrates (amphipods, amphipod burrows, flies, beetles, isopods, craneflies, spiders, polychaetes, and other) on a $\log_{10}$ scale; and 3) the number (0, 1–10, or >10) of sets of tracks of people, dogs, vehicles, horses, and corvids (American crow [*Corvus brachyrhynchos*] and Common raven [*C. corax*]). We measured beach slope using a clinometer (measured from the wrack to the base of the dune). Lastly, observers conducted point counts at 20-min intervals, recording the number of people, dogs, vehicles, horses, common raven, American crow, and raptors within a 500-m radius, a spatial scale that included the foreshore, wrack, and backshore habitats.

We obtained measures of ground cover of the backshore using a different method on three separate occasions. Walking along the wrack and stopping at 150-m intervals we recorded a ground plot of the wrack. At the 150-m interval we recorded a ground plot of the backshore sampled at a random distance between the wrack and the duneline (using a random number generator to identify the distance [m] from the wrack). We also estimated the slope (°) of the foreshore at 300-m intervals using a clinometer from 30 m down slope of the most recent high tide line to the wrack.

We defined beach width as the distance between average high tide line and duneline (identified as the vegetation line or crest of the western-most dunes). We used coordinate locations of ground plots taken along the wrack to represent the average high tide line. We traced the duneline with a GPS between 1 January 2009 and 28 February 2009.

Statistical Analyses

We estimated space use of plovers along beaches as a linear distance (or segment of beach) because the habitat of ocean-fronting beaches limited plovers to linear (north–south) movements (Wilson and Colwell 2010). We used the locations of 31 individually marked plovers to estimate the 90% utilization distribution using fixed kernel density analysis with least squares cross validation (Seaman and Powell 1996). Next, we fit a straight line through the 90% kernel intersecting the contour at the greatest distance apart. We used this distance to estimate the space use (linear segment of beach) for each uniquely marked plover. For individuals with multiple 90% kernels (use areas), we summed the linear distances across all kernel contours. Finally, we estimated the average (±SD) linear distance (linear stretch of beach) of individually marked plovers. Additionally, we estimated area from the fixed kernel density analysis; these results provide a comparison to the home range of other nonbreeding shorebirds.

We divided the study are into linear segments of beach with lengths equal to the mean linear distance estimated from the 90% kernel density analysis. We divided the study area into sequential segments using a random location (generated using ArcGIS version 9.3, ESRI, Inc., Redlands, CA) as a starting point. We considered sites to be occupied if we observed a plover during ≥1 of the 16 surveys. We used ArcGIS to spatially analyze the data characterizing habitat. We buffered data collected during ground plots by 3 m (radius) at each location. We buffered point count data by 500 m (radius) at each location; where buffers overlapped we assigned the average value to that location. We then estimated the average value for each habitat variable sampled from multiple locations within each occupied and unoccupied stretch of beach.

We compared habitat characteristics of occupied and unoccupied sites with logistic regression analysis using an information theoretic approach (Burnham and Anderson 1998). We developed a set of 20 a priori candidate models based on literature review of habitat associations of nonbreeding shorebirds (Colwell 2010). From these candidate models and the null model (intercept only), we selected the most parsimonious models using Akaike's Information Criterion with a small sample bias correction (AIC_c). We evaluated model fit by calculating the pseudo-coefficient of determination for each candidate model and the area under the receiver operating characteristics (ROC), which plots sensitivity against 1 − specificity to provide a measure of model performance. We also examined the correct classification rate, setting cutpoint at 0.5 and using the ROC curve and commission and omission errors to set the cutpoint (Zweig and Campbell 1993); these results were nearly identical, therefore we present results from the 0.5 cutpoint. To evaluate the importance of variables in the top ranked models, we calculated the relative importance for each variable by summing the AIC_c model weights of every model containing that variable (Burnham and Anderson 1998).

To assess the degree of spatial autocorrelation in the response variable we calculated the Moran's index (I). We then incorporated an autocovariate term into the candidate models to account for spatial effects of neighboring locations of the response variable. We calculated the autocovariate term as:

$$A_i = \frac{\sum_{j \in k_i} w_{ij} y_j}{\sum_{j \in k_i} w_{ij} y_j}$$

where y_j is the response value of y at site j among the set of k_i neighbors of site i, and w_{ij} is the weight of the influence of j over site i (Augustin et al. 1996). The weight function is

related to the geographical distance between locations (Augustin et al. 1996), which in our case is associated with the estimate of space use (linear stretch of beach).

To evaluate the relationship between brown algae and invertebrates, we examined correlations between brown algae and amphipods, amphipod burrows, and flies across all sites (occupied and unoccupied) in the study area. We did not examine relationships between brown algae and other invertebrates because we detected these potential food items rarely ($n < 10$). We present averages (±SD).

RESULTS

During two consecutive winters we recorded an average of 76 ± 14 snowy plovers per survey ($n = 16$) concentrated at five beaches (Fig. 1). The number of plovers in the study area decreased by 18% between the first (86 ± 12) and second (71 ± 12) winter ($t_{14} = 2.38$, $P = 0.03$). There were 54 marked plovers in the study area (Brindock 2009); most (57%) of these individuals had unique band combinations and either bred locally ($n = 22$) or were immigrants from Oregon ($n = 7$) or central California ($n = 2$). Twenty-three plovers had band combinations indicating that they fledged from Oregon ($n = 18$) or Humboldt County, California ($n = 3$). An additional two plovers had one metal (uncolored) band; one fledged from Oregon, the origin of the other is unknown.

Plover abundance varied in a similar manner across the 2 years. Fewer plovers were present during October (2007–2008: 84 ± 10; 2008–2009: 50 ± 14) than the rest of the winter, when numbers remained consistent from November through January (2007–2008: 92 ± 2; 2008–2009: 75 ± 2); numbers decreased slightly in February (2007–2008: 75 ± 12; 2008–2009: 71 ± 9). Plovers occurred singly, but they most often (60% of 121 occasions) occurred in flocks ≥5 (Fig. 2). More plovers roosted (76%) than fed (24%). When feeding, we observed plovers in the same sites in which they roosted. Plovers roosted in backshore (69%), wrack (26%), or foreshore (5%) habitats. Feeding plovers occurred mostly in wrack (75%) and less often on the foreshore (23%) or backshore (2%).

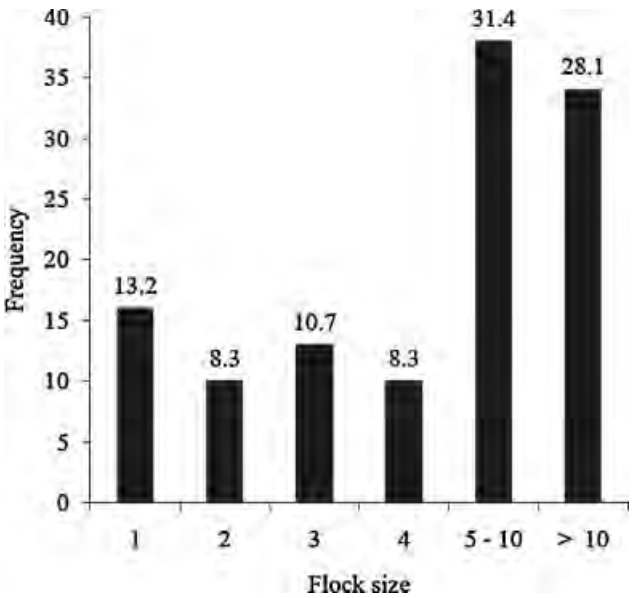

Figure 2. Frequency and percent (above bars) of observations of snowy plovers observed singly and in flocks (roosting and feeding) of different size in Humboldt County, California, October 2007–February 2009.

Marked plovers ($n = 31$; 12 ± 3 observations) occupied linear stretches of beach that averaged 752 ± 626 m; area was 0.36 km^2. The linear distance of beach occupied by plovers increased with number of observations, but quickly leveled off after the fifth observation and remained stable after the tenth observation, which suggests that this estimate was representative of winter movements. Linear distance of movement (estimate of space use) was not correlated with average flock size ($t_{29} = 1.16$, $r^2 = 0.06$, $P = 0.26$). Using the linear estimate (752 m), we divided the study area into 25 occupied and 60 unoccupied sites. We observed plovers in occupied sites during varying tidal heights (0.3–2.4 m) and time of day (0730 hours through 1337 hours). Plover abundance was not correlated with tide height ($t_{120} = -0.02$, $r^2 = < 0.01$, $P = 0.98$) or time of day ($t_{120} = -1.08$, $r^2 = 0.07$, $P = 0.25$).

The 16 surveys of the study area provided 3,479 ground plots, 971 point counts, and 1,605 measures of beach slope. The method of sampling habitat data using timed intervals resulted in 526 ± 126 m between successive ground plots and 1,057 ± 240 m between successive point counts. Average number of samples in occupied sites (ground plots: 43 ± 4; point counts: 13 ± 3; measures of beach slope: 20 ± 4) was slightly more than unoccupied sites (ground plots: 40 ± 4; point counts 11 ± 3; measure of slope of beach: 18 ± 3).

The top ranked model for predicting snowy plover presence included brown algae, beach width, and vegetation (pseudo $R^2 = 0.54$; Table 1). The second ranked model contained brown algae, beach width, raptors, and dog tracks (pseudo $R^2 = 0.53$). The combined weight for the top 2 models was 0.99, indicating that there was a high probability that one of these models was the best model of the 20 considered. Both models performed well, predicting plover presence with similar correct classification rates for the top (89.7%) and second ranked (87.1%) models. Area under the ROC curve for the top and second ranked model was the same (0.94). Spatial distribution of plovers was not autocorrelated (Moran's $I = 0.029$, $P = 0.251$). Consequently, adding an autocovariate term to the top 2 ranked models had little effect, producing nearly identical results as models without the autocovariate term.

Wintering plovers selected sites that were 84% wider ($P < 0.001$) and contained over 100% more brown algae ($P < 0.001$) than unoccupied sites (Tables 1–3). Amount of brown algae on beaches was significantly positively correlated with invertebrate abundance, especially amphipods, their burrows, and flies (Fig. 3). Plovers also occurred in sites with 35% less vegetation than unoccupied sites (Tables 1–3). Although model 2 suggests snowy plover presence was negatively associated with both raptors and dog tracks (Table 2), those variables had low relative importance and

Table 1. Top 2 models plus the null model for predicting snowy plover presence at occupied ($n = 25$) and unoccupied ($n = 60$) sites in Humboldt County, California, October 2007–February 2009.

Model	K[a]	AIC_c [b]	ΔAIC_c [c]	w_i [d]
Brown algae + width + vegetation	4	52.72	0	0.94
Brown algae + width + raptors + dog tracks	5	58.71	5.99	0.05
Null model	1	105.03	52.31	0

[a] No. of parameters in the model.
[b] Akaike's Information Criterion with small sample bias adjustment.
[c] ΔAIC_c is equal to the AIC_c value of model i minus the min. AIC_c model value.
[d] AIC_c weight (w_i) is the percentage of total weight that can be attributed to an individual model.

Table 2. Parameter estimates, standard errors, P values, and relative importance of variables in the top 2 models for predicting snowy plover presence at occupied ($n = 25$) and unoccupied ($n = 60$) sites in Humboldt County, California, October 2007–February 2009.

Model	Estimate	SE	P	Relative importance
Model 1				
Brown algae	13.840	3.452	<0.001	0.99
Beach width	0.058	0.020	0.004	0.99
Vegetation	−14.312	7.997	0.074	0.94
Model 2				
Brown algae	12.554	3.427	<0.001	0.99
Beach width	0.061	0.020	0.003	0.99
Raptors	−8.344	7.657	0.276	0.05
Dog tracks	−0.590	1.337	0.659	0.05

coefficient estimates with high standard errors, suggesting weak effects.

DISCUSSION

Wintering plovers occupied short segments (<1 km) of beach and areas (<1 km^2), which is a small estimate of home range for a nonbreeding shorebird. By comparison, western sandpipers (*Calidris mauri*) wintering in San Francisco Bay had a mean home range size of 22 km^2 and mean core use area of 9.5 km^2 (Warnock and Takekawa 1996). Average home range size of nonbreeding piping plovers (*Charadrius melodus*) in Texas (12.6 km^2; Drake et al. 2001) and North Carolina (2.2 km^2; Cohen et al. 2008) were larger than those we observed for snowy plovers. Although there is no previous estimate of home range size for nonbreeding snowy plovers, breeding season data from the study area (M.A. Colwell,

Table 3. Means, standard deviations, test statistics, and P values of variables sampled at snowy plover occupied ($n = 25$) and unoccupied ($n = 60$) sites in Humboldt County, California, October 2007–February 2009.

	Occupied		Unoccupied			
Variable	$\bar{x}$	SD	$\bar{x}$	SD	t	P
Ground plot						
Amphipods	0.19	0.13	0.13	0.13	1.94	0.06
Amphipod burrows	0.53	0.27	0.33	0.24	3.28	<0.01
Brown algae	0.42	0.18	0.18	0.09	6.49	<0.001
Corvid tracks	0.06	0.07	0.05	0.05	0.94	0.35
Dog tracks	0.42	0.32	0.48	0.34	−0.84	0.40
Eelgrass	0.38	0.49	0.58	0.52	−1.65	0.11
Flies	0.19	0.13	0.08	0.06	4.49	<0.001
Ground cover-backshore	1.21	0.30	1.43	0.21	−2.45	0.02
Ground cover-wrack	1.76	0.33	1.75	0.24	0.25	0.81
Human tracks	0.55	0.39	0.47	0.35	0.88	0.39
Vegetation	0.08	0.05	0.12	0.09	−2.52	0.01
Vehicle tracks	0.36	0.23	0.26	0.29	1.57	0.12
Woody debris	0.91	0.45	0.96	0.42	−0.47	0.64
Point counts						
Corvids	1.52	1.26	0.86	0.95	2.34	0.09
Dogs	0.24	0.36	0.30	0.42	−0.65	0.52
People	0.63	0.67	0.50	0.60	0.81	0.42
Raptors	0.04	0.04	0.08	0.06	−1.43	0.16
Vehicles	0.09	0.11	0.06	0.24	0.74	0.46
Slope						
Backshore	4.83	0.92	4.55	0.96	1.30	0.20
Foreshore	5.80	2.36	5.45	2.24	0.63	0.53
Beach width	46.81	16.59	25.47	15.94	5.46	<0.001

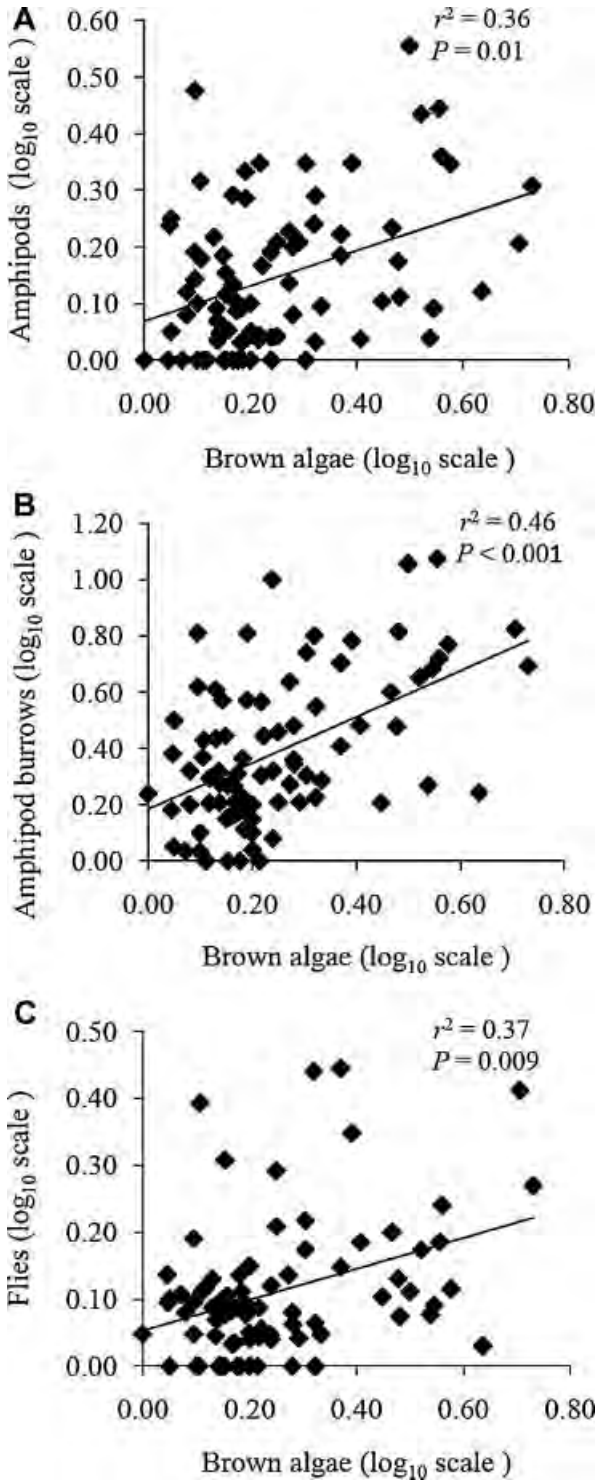

Figure 3. The relationship between brown algae and abundance of invertebrates (A: amphipods, B: amphipod burrows, C: flies) at all sites ($n = 85$) designated as a 752-m linear stretch of beach in Humboldt County, California, October 2007–February 2009.

Humboldt State University, unpublished data) suggest that home range size is larger in the breeding season, when individuals may sometimes disperse long distances and often move among multiple breeding locations (Stenzel et al. 1994, Colwell et al. 2007).

Our estimates of space use of wintering plovers were based solely on diurnal observations, which may bias interpretations of habitat use (Gillings et al. 2005). Most observations were of roosting snowy plovers, suggesting that nocturnal feeding may be an important facet of plover foraging ecology, as it is among wintering Kentish plovers (*C. alexandrinus*) in Japan (Kuwae 2007) and Wilson's plovers (*C. wilsonia*) in Venezuela (Thibault and McNeil 1994). A primary prey item of plovers resident on ocean-fronting beaches is burrowing amphipods, which are more active at night (Page et al. 1995, Kennedy et al. 2000). Activity such as nocturnal foraging could yield different results. However, the concentration of food, including amphipods, at occupied sites suggests that plovers restrict movements for feeding within the observed linear stretches of beach where food densities are highest. Relationships between foraging and roosting sites and diurnal and nocturnal habitat use are poorly understood for this species. Our results are derived from, and thus limited to, diurnal activity of plovers.

Snowy plovers occupied wide beaches that had more brown algae and associated invertebrates and less vegetation compared with unoccupied sites, suggesting that plovers selected habitats that provide more food and have lower risk of predation. Amphipods and flies, both considered major food items for snowy plovers (Page et al. 1995), were significantly positively correlated with brown algae, which was a significant variable in predicting snowy plover presence. Additionally, all models containing the variable amphipods or flies had coefficients that were either significant ($P < 0.05$) or marginally so ($P < 0.10$); adding either variable to any candidate model (including the top ranked models) improved model fit. Similar results were reported in southern California where snowy plover abundance correlated positively with the amount of brown algae on beaches (Dugan et al. 2003). Elsewhere along the Pacific coast, brown algae is an important habitat component of the food chain for plovers and other shorebirds because it provides a food source for invertebrates (Bradley and Bradley 1993, Dugan et al. 2003, Hubbard and Dugan 2003).

Snowy plovers occurred on wide beaches that had low amounts of vegetation; occupied sites also had fewer raptors than unoccupied sites, although this latter relationship was weak. Collectively, the habitat features suggest that plovers select diurnal habitats that reduce the risk of predation. During the nonbreeding season, raptors, especially falcons, which often hunt by approaching prey low to the ground (Whitfield 2003), are the most frequent predator of shorebirds (Page and Whitacre 1975, Creswell and Whitfield 1994). Selecting habitats that are open (or wide) and have less vegetative cover can facilitate early detection of raptors, reducing predation risk, as evidenced in previous studies demonstrating a positive correlation between raptor predation rates on shorebirds and openness and vegetative cover (Dekker and Ydenberg 2004, Van den Hout et al. 2008). Additionally, negative correlations between shorebirds and vegetation suggest that individuals select habitats with attributes (i.e., vegetation, width) that reduce predation risk (Fernández and Lank 2006, Pomeroy 2006).

In addition to the physical attributes in a habitat, flocking can reduce the risk of predation to shorebirds (Myers 1984).

Individuals in small flocks are at greater risk of predation than those in large flocks (Page and Whitacre 1975, Cresswell and Quinn 2004). Snowy plovers occurred most frequently in flocks, with few observations of single plovers, consistent with observations from other coastal areas (Page et al. 1995, Lafferty 2001). Flocking behavior of plovers is likely a behavioral response by individuals to reduce the risk of predation.

Despite appreciable variation in human activity across the study area, we found limited evidence that this activity correlated with plover distributions, which contradicts some (Pfister et al. 1992, Kirby et al. 1993) but not all (Colwell and Sundeen 2000, Gill et al. 2001*b*) studies. The relationship between shorebirds and disturbance is likely influenced by the type, frequency, and intensity of disturbance, which is comparatively low in northern California. In southern California, where levels of disturbance are higher, management of human disturbance led to an increase in plover abundance during the nonbreeding season and the reestablishment of breeding plovers after a 30-year absence (Lafferty et al. 2006).

The effect of heterogeneous detection probability on bird surveys has received considerable attention in recent years (Thompson 2002). In particular, we considered the possibility that our finding that plovers were negatively associated with cover could have been an artifact of lower detectability in areas with high cover. We doubt this was the case in our study because detectability increases with sample intensity, and sampling intensity in our study was very high (16 visits/site). Furthermore, as we pointed out above, the finding that shorebirds are negatively associated with cover is supported by the observations of other researchers (Fernández and Lank 2006, Pomeroy 2006, Van den Hout et al. 2008).

Habitats plovers selected had high food availability and low predation risk, emphasizing the importance of food and danger on the winter distribution of shorebirds and for maintaining viable populations (Clark et al. 1993). These habitat components (food and danger) may be especially important for shorebird conservation considering that roughly 50% of shorebirds (suborder Charadrii) in North America are declining and habitat loss is the leading cause of endangerment to bird species in the United States (Brown et al. 2001, Johnson 2007). Examining variables that influence food availability and predation risk may provide further insight to the processes through which shorebirds select habitat and thus may aid conservation efforts for shorebirds.

MANAGEMENT IMPLICATIONS

The recovery plan for the Pacific Coast population of the snowy plover requires long-term management and protection of wintering sites, including prevention of disturbance by humans and their pets, restricting off-road vehicles, and creating and enhancing existing winter habitat (U.S. Department of Interior 2007). Managing habitat to increase food availability and reduce predation risk may be important to maintaining the Pacific Coast population of snowy plovers. Introduced European beachgrass is the dominant vegetation on beaches in the study area (Barbour et al. 1976); restoration efforts, including current projects aimed at restoring breeding habitat through removal of non-native vegetation, that increase openness of habitat would benefit wintering plovers by reducing predation risk. Activities, such as beach grooming, that decrease invertebrate abundance may adversely affect nonbreeding habitat by reducing food availability. Although human activity was not a significant variable predicting snowy plover distributions, we recorded the death of a plover from a vehicle strike, which suggests that chronic levels of disturbance (as indexed here) may not adequately represent the threat to individuals and populations as represented by single events.

ACKNOWLEDGMENTS

We thank M. D. Johnson and T. L. George for valuable comments and feedback throughout this study. We extend our gratitude to field assists N. S. Burrell, M. A. Hardy, J. J. Muir, and S. A. Peterson. We thank R. R. LeValley, S. E. McAllister, K. G. Ross, and A. N. Transou for their support and assistance. We are grateful to J. H. Watkins for supporting this project. We thank the California Department of Fish and Game, California Department of Parks and Recreation, Humboldt County Parks, and the United States Bureau of Land Management for allowing access to sites and for their cooperation with this project. This work was funded by the California North Coast Chapter of The Wildlife Society, Rotary Club of Eureka, The Garden Club of America, United States Fish and Wildlife Service, and the Western Section of The Wildlife Society.

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Associate Editor: David King.

The Condor 108:547–557
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SEX, AGE, AND BODY SIZE DISTRIBUTIONS OF WESTERN SANDPIPERS DURING THE NONBREEDING SEASON WITH RESPECT TO LOCAL HABITAT

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Abstract. We documented the local density and sex, age-class, and body size distributions of Western Sandpipers (*Calidris mauri*) among habitats at Bahía Santa María, northwestern Mexico, during the nonbreeding season. Three habitats were recognized: brackish flats, mangroves, and cattail marshes, which we ranked as richest to poorest in food resources and safest to most dangerous in predation danger. Western Sandpiper population structure differed among habitats. Bird densities were highest in brackish flats, the richest and safest habitat, and males and adults of both sexes were overrepresented. In cattail marshes, which appeared to be the poorest and most dangerous habitat, bird densities were lower, and the sex ratio and age ratios within each sex were more even. In mangroves, bird densities were similar to those in cattail marshes, but sex and age ratios were similar to those in brackish flats. Exposed culmen, an index of structural size, was not related to habitat use in either sex. Body mass of immature males was more variable than that of adults among habitats and immature males gained mass throughout the winter. Birds in brackish flats and mangroves were initially heavier, but tended to lose mass, whereas birds in cattail marshes were initially lighter, but tended to gain mass. Mass distributions thus converged in late winter. While the social and ecological causes and significance of differential sex and age-class distributions among habitats remain largely unquantified, evidence from this and previous studies suggests that nonbreeding population structure is a common phenomenon with important implications for migratory shorebirds.

Key words: Calidris mauri*, density-dependent competition, habitat quality, local distribution, nonbreeding season, predation danger, Western Sandpiper.*

Distribución de los Sexos, Clases de Edad y Tamaño de *Calidris mauri* con respecto al Tipo de Hábitat Durante la Época No-Reproductiva

Resumen. Se determinó la densidad y distribución de los sexos, clases de edad y tamaño de *Calidris mauri* en diferentes hábitats de Bahía Santa María, noroeste de México, durante la época no-reproductiva. Se reconocieron tres hábitats: planicies lodosas, manglares y tulares, los cuales se clasificaron de mayor a menor con respecto a la densidad de invertebrados y de menor a mayor con respecto al riesgo de depredación. La estructura poblacional de *C. mauri* difirió entre hábitats. La densidad de aves fue alta en planicies lodosas, el hábitat con mayor densidad de invertebrados y menor riesgo de depredación, y los machos y los adultos de ambos sexos estuvieron sobre-representados en este tipo de hábitat. En tulares, el hábitat que pareció tener la menor densidad de invertebrados y el mayor riesgo de depredación, la densidad de aves fue más baja y la proporción de sexos y edades en cada sexo fue similar. En manglares, la densidad de aves fue similar a la observada en tulares, pero la proporción de sexos y edades fue similar a la observada en planicies lodosas. El culmen expuesto, un índice del tamaño estructural, no se relacionó con el uso del hábitat en ninguno de los sexos. El peso de los machos inmaduros fue más variable entre hábitats que el de los machos adultos, y los machos inmaduros aumentaron su peso durante el invierno. Las aves en planicies lodosas y manglares fueron inicialmente más pesadas pero tendieron a perder peso, mientras que las aves en tulares fueron inicialmente más ligeras pero ganaron peso. Por lo tanto, la distribución de los pesos corporales convergió entre hábitats a fines del invierno. Aunque el origen y el significado social y ecológico de la distribución diferencial de sexos y clases de edad permanecen en gran parte sin ser cuantificados, este y estudios previos muestran que la estructura de poblaciones no-reproductivas es un fenómeno común, el cual presenta implicaciones importantes para las poblaciones de aves playeras migratorias.

Manuscript received 20 July 2005; accepted 26 April 2006.

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INTRODUCTION

Habitat choice by birds is a dynamic process affected by many factors. Individuals often choose among habitats that differ in foraging profitability, competition, and level of predation danger (Fretwell and Lucas 1970, Lima and Dill 1990, Sutherland 1996). If individuals or classes of individuals differ in their ability to exploit resources among habitats, for example through differences in foraging morphology, then specialization in different habitats may optimize foraging profitability for different individuals (Zharikov and Skilleter 2002). Different abilities can thus generate differential distributions within a population. Differential distributions would be further favored if asymmetric competition for food occurs, in which the competitive balance changes among habitats. Finally, if the level of predation danger also varies among habitats, individuals will not necessarily select habitats based solely on energetic return. Instead, those individuals with higher vulnerability or lower energetic demands may accept lower energetic returns in order to forage in habitats that are safer (Warnock 1990, Cresswell 1994, Dierschke 1998, Ydenberg et al. 2002, Whitfield 2003). Thus, differences in body size and body condition among competitors affect each individual's best habitat choice, by influencing its ability to acquire resources and its susceptibility to competition and predation (Sutherland 1996).

Many species of migratory shorebird exhibit differential habitat distribution patterns in which sex and age classes are spatially segregated, either latitudinally (Myers 1981, Shepherd et al. 2001, Nebel et al. 2002) or among habitats on a local scale (Cresswell 1994, Warnock 1994, Zharikov and Skilleter 2002, Whitfield 2003, Shepherd and Lank 2004). The underlying mechanisms responsible for such patterns, and their consequences, are poorly understood (Ruiz et al. 1989, Warnock 1994, Nebel et al. 2002, O'Hara et al. 2005). Although shorebirds can move among a variety of habitats, their ability to do so does not suggest a lessened dependence on any given one (Warnock and Takekawa 1995, Shepherd and Lank 2004).

We examined patterns of habitat distribution of Western Sandpipers (*Calidris mauri*) wintering in Bahía Santa María ("Santa María"), located in northwestern Mexico. On the nonbreeding grounds, Western Sandpipers are partially segregated by sex and age class, with males predominant in the north, and older birds predominant in the center of the range (Nebel et al. 2002). Local age-class segregation by habitat also occurs (Warnock and Takekawa 1995, Buenrostro et al. 1999). Like many other shorebirds, Western Sandpipers may defend feeding territories on the wintering grounds (Tripp and Collazo 1997), but in general their population structure consists of broadly overlapping home ranges (Warnock and Takekawa 1996). Relative to other calidrid sandpipers, Western Sandpipers are highly sexually dimorphic, with females about 10% heavier and 15% longer-billed than males (Cartar 1984). The Western Sandpiper is well suited for studying patterns of differential habitat distribution, because this sexual dimorphism in bill morphology and body size correlates with sex-related differences in foraging behavior and vulnerability to predation that may affect habitat use decisions (Burns and Ydenberg 2002, Ydenberg et al. 2002, Mathot and Elner 2004).

Over 350 000 Western Sandpipers, or 10% of the global population (Bishop et al. 2000), spend the winter at Santa María. Western Sandpipers are widely distributed among a mosaic of habitats (Engilis et al. 1998). The primary objectives of this study were to determine the density and the sex, age-class, and size distributions of Western Sandpipers within this mosaic, and to suggest potential explanations for the observed patterns. We recognized three habitats used by Western Sandpipers—brackish flats, mangroves, and cattail marshes—that we expected to differ with respect to prey density and level of predation danger. Prey density for estuarine shorebirds is often a function of nutrient input, hydrology, and sediment grain size, and has typically been sampled directly (Colwell and Landrum 1993, Zharikov and Skilleter 2002, Rodrigues et al. 2006). The level of predation danger includes both the abundance of predators and aspects of the structure of the habitat (Lank and Ydenberg 2003). For small shorebirds, feeding closer to cover entails a higher risk both of being attacked by an avian predator and of the attack being successful (Leger and Nelson 1982,

Cresswell 1994, Whitfield 2003, Dekker and Ydenberg 2004). We therefore recorded predator encounter frequency and estimated distance to cover to rank the habitats with respect to relative level of predation danger.

METHODS

STUDY AREA

This research was conducted at Santa María (25°02′N, 108°18′W), about 90 km northwest of Culiacán City, northwestern Mexico. Santa María is the largest wetland on the Sinaloa coast, and is composed of 1350 km^2 of a diverse habitat mosaic, which includes an outer bay, intertidal mudflats, mangroves, brackish flats, emergent brackish marshes, and freshwater marshes (Engilis et al. 1998). Study sites were located on the east side of the wetland, just south of the village of La Reforma, covering an area of approximately 180 km^2 (15 km × 12 km). The distance between study sites ranged from 0.3 km to 13 km. Three habitats were recognized: brackish flats, mangrove–salt marsh flats, and cattail marshes. Brackish flats were large areas ranging from completely open unvegetated flats to sparsely vegetated areas with *Scirpus* spp. and *Salicornia* spp. The mangrove–salt marsh flats ("mangroves") were smaller open flats broken up by patches of mangroves. Mangroves were dominated by black mangrove (*Avicennia germinans*) with some emergent vegetation, mainly *Spartina* spp. and *Salicornia* spp. The cattail marshes were small beaches in freshwater areas, adjacent to extensive stands of cattails (*Typha* spp.) with other secondary vegetation, such as *Scirpus* spp., *Atriplex* spp., and *Chenopodium* spp. Brackish flats and mangroves are not affected by daily tidal cycles, but may be flooded twice a month during spring tides, with the highest tides in December. In cattail marshes, the water level is affected by the amount of rain and agricultural runoff during summer and winter, respectively.

DATA COLLECTION

We trapped and observed Western Sandpipers at over 100 locations in the wetland during three winters: November to February of 1999–2000, and December to February of 2000–2001 and 2001–2002. We used mist nets accompanied by broadcasts of Western Sandpiper alarm calls to capture sandpipers during morning sessions (e.g., 07:00 to 11:00). At the time of capture, we measured body mass (±0.5 g) and bill (exposed culmen, ±0.1 mm). Each bird was sexed based on bill measurements (female ≥24.8 mm, male ≤24.2 mm; Page and Fearis 1971), and aged as an immature (<1 year old) or adult based on plumage coloration and wear of primary feathers (Page et al. 1972, O'Hara et al. 2002). Birds were banded with a U.S. Geological Survey aluminum band and unique combinations of Darvic® color bands. All morphological measurements and age-class classifications were made by GF. In total, we trapped 1818 Western Sandpipers; 3% (57) of unknown sex were excluded from analyses.

Between January and February of 2000 and 2001, we estimated the density of Western Sandpipers and benthic prey density as an index of resource quality in each habitat. Sandpiper density was estimated using 50 m × 50 m (0.25 ha) plots randomly situated in each habitat. Given the habitat configuration, density observation plots in mangroves and cattail marshes were relatively closer to vegetation cover (<200 m), whereas distances between plots and vegetation cover varied greatly in brackish flats (evenly sampled: close to cover, <200 m; intermediate, 200–900 m; and far from cover, >1000 m). In each plot, all Western Sandpipers were counted at 20 min intervals for at least 3 hr, and an average sandpiper density per plot per day was calculated. Sediment cores were collected where Western Sandpipers were feeding. Cores were extracted using a modified 60 cc syringe (2.6 cm inner diameter, with the apex sliced off and the edge beveled). In both years, cores were collected in a randomly selected foraging site by inserting the syringe 3 cm into the sediment. Sampling frequency varied among years and habitat types depending on access and funding. In 2000, 54 cores were collected from brackish flats and 36 from mangroves; in 2001, 36 cores were collected from brackish flats, 10 from mangroves, and 5 from cattail marshes. Sediment cores were extruded in situ, inserted into appropriately labeled plastic bags, and placed in a freezer. After thawing, samples were washed with distilled water through a 0.5 mm sieve to separate the macrofauna fraction of invertebrates following the methods of Sutherland et al. (2000). Invertebrate taxa were identified and counted to estimate potential prey density.

In 2001 and 2002, we estimated distances from sandpiper capture sites to the nearest vegetation cover. We used these relative distances as an *a priori* index of the relative level of predation danger of each habitat (sensu Lank and Ydenberg 2003). In all three winters, the raptor encounter rate (raptors hr^{-1}) was estimated for each habitat using a point-count method based on the number of raptors noted in 469 hours of fieldwork. The most common predators of Western Sandpipers were Peregrine Falcons (*Falco peregrinus*) and Merlins (*F. columbarius*). In addition, sandpipers occasionally responded to encounters with Northern Harriers (*Circus cyaneus*).

STATISTICAL ANALYSIS

We assumed that trapped birds were representative of the populations using each habitat type. To assess variation in population structure among habitats and throughout the winter, we analyzed the proportion of males, and adults within each sex, using a mixed-model ANCOVA with the effects of habitat and day of capture as covariates, and controlling for annual variation. The effect of habitat on bird and prey densities was analyzed using one-way ANOVA, controlling for annual variation. To produce more normal distributions for parametric analyses, bird and prey densities were log transformed prior to analysis, and the proportion of males and adults within each sex were arcsine square-root transformed. The small sample size of invertebrate cores for cattail marshes limited our power to detect differences in this habitat type. Due to differences in habitat characteristics, the radius for raptor detection, and therefore instantaneous sampling area, differed among habitats. Typical detection radii by observers were estimated as 200 m, 140 m, and 80 m for brackish flats, mangroves, and cattail marshes, respectively. To account for these differences, raptor encounter rates were adjusted by dividing by 1.0 for brackish flats, 0.7 for mangroves, and 0.4 for cattail marshes. Habitat differences in adjusted raptor encounter rates were investigated using a mixed-model ANCOVA, weighted by relative observation time, with the effects of habitat and day of observation as covariates, and controlling for annual variation. Adjusted raptor encounter rates were log transformed prior to analysis to meet the assumptions of normality for parametric analyses.

Since females are typically larger than males (Cartar 1984), all exposed culmen and body mass analyses were done separately by sex. We compared exposed culmen length as an index of structural size for nonbreeding Western Sandpipers and analyzed variation with respect to effects of age class, habitat, and their interaction, while controlling for annual variation, using a mixed-model ANOVA. We analyzed body mass differences for effects of age class, habitat, and day of capture using these variables and their interaction terms as covariates, and controlling for annual variation, using a mixed-model ANCOVA. We considered statistical test results to be significant at $P < 0.05$, except for interaction terms, which we considered significant at $P < 0.10$, since significance tests for interaction terms have lower power than those for main effects (Littell et al. 1991). When interaction terms were not significant, models were reduced to their most parsimonious form based on Type III sum of squares. We report least-squares means ($\pm$95% CI) taking the other factors and annual variation into account. We used the Tukey-Kramer test for pair-wise *post-hoc* comparisons. All statistical tests were performed using SAS version 8.2 (SAS Institute 2002).

RESULTS

PREY DENSITY AND PREDATION DANGER

The invertebrate community sampled in sediment cores consisted of Diptera (primarily chironomid larvae, tipulids, muscids, and ephydrids), Hymenoptera, Homoptera, and Lepidoptera. Cores from brackish flats had higher invertebrate densities than those from mangroves and cattail marshes ($F_{2,110} = 12.2$, $P < 0.01$; Table 1). Adjusted raptor encounter rates of 0.4 ± 0.1 raptors hr^{-1} did not differ throughout the winter ($F_{1,129} = 1.0$, $P = 0.32$), nor among habitats ($F_{2,129} = 0.4$, $P = 0.69$; Table 1). Since our raptor encounter rates are not adjusted for the densities of Western Sandpipers in each habitat, they do not index potential per capita encounter rates. In terms of habitat-specific predation danger, brackish flats were the most open, and thus potentially the safest; cattail marshes were most enclosed, and thus potentially most dangerous; and mangrove

TABLE 1. Western Sandpiper population structure and prey and raptor abundance with respect to habitat type in Bahía Santa María, northwestern Mexico, during the nonbreeding seasons of 1999–2001. Least-squares means (±95% CI) are reported, controlling for annual variation, and sample sizes are given in parentheses. Sample size for bird density = number of observation plots surveyed, for sex and age composition = number of birds, for prey density = number of sediment cores, and for raptor encounter rate = number of survey hours.

		Habitat type		
		Brackish flats	Mangroves	Cattail marshes
Bird density (birds ha^{-1})		448 ± 130 (20)*	179 ± 198 (7)	94 ± 230 (5)
Sex composition (proportion male)		0.78 ± 0.04 (865)*	0.64 ± 0.06 (578)	0.55 ± 0.08 (318)
Age composition (proportion adult)	Females	0.79 ± 0.06 (188)	0.78 ± 0.08 (200)	0.49 ± 0.12 (130)*
	Males	0.86 ± 0.06 (677)	0.84 ± 0.06 (378)	0.48 ± 0.10 (188)*
Prey density (individuals mL^{-1})		0.14 ± 0.02 (90)*	0.05 ± 0.02 (46)	0.03 ± 0.08 (5)
Adjusted raptor encounter rate (raptors hr^{-1})		0.3 ± 0.1 (247)	0.4 ± 0.2 (86)	0.4 ± 0.2 (136)

* Denotes significant difference from other habitats, $P < 0.05$.

habitat was more variable, and intermediate with regard to distance to vegetation (Fig. 1). Combining similar raptor encounter rates with differential distances to cover implies that, all else being equal, brackish flats are the safest and cattail marshes the most dangerous habitats for sandpiper (Table 2).

WESTERN SANDPIPER DENSITIES AND POPULATION STRUCTURE

Densities of Western Sandpipers ranged from 94 to 448 birds ha^{-1} and differed among habitats ($F_{2,28} = 4.4$, $P = 0.02$); brackish flats had higher densities than mangroves and cattail marshes (Table 1). Sex ratios did not differ throughout the winter ($F_{1,108} = 2.6$, $P = 0.20$), but were significantly different among habitats ($F_{2,108} = 12.0$, $P < 0.01$). Samples of Western Sandpipers netted in cattail marshes had even sex ratios, while those from mangroves and brackish flats were increasingly male-biased (Table 1). Within sexes, age-class composition did not differ throughout the winter (females: $F_{1,108} = 1.0$, $P = 0.32$; males: $F_{1,108} = 3.6$, $P = 0.06$). Adults of both sexes were overrepresented in brackish flats and mangroves (78%–86%), but the adult:immature ratio was nearly even in cattail marshes (females: $F_{2,108} = 7.4$, $P < 0.01$; males: $F_{2,108} = 18.8$, $P < 0.01$; Table 1).

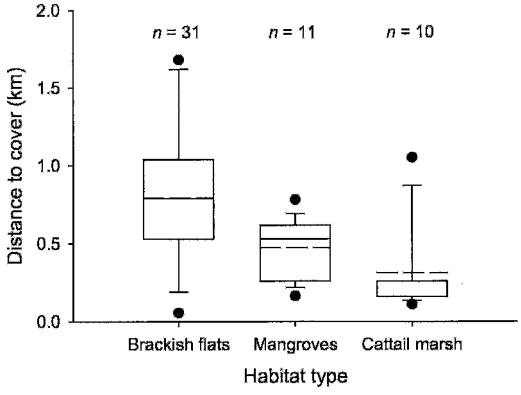

FIGURE 1. Distances to nearest vegetation cover from Western Sandpiper trapping sites in three habitat types in Bahía Santa María, northwestern Mexico, during the nonbreeding seasons of 2000–2001. The box and whiskers plots show the mean as a dotted line and the median as a solid line (a solid line with no dotted line indicates median = mean), and 5% and 95% (circles), 10% and 90% (whiskers), and 25% and 75% (box) quartiles.

WESTERN SANDPIPER BODY SIZE AND MASS

The exposed culmen of females did not differ in length between age classes ($F_{1,512} = 0.4$, $P = 0.53$) or among habitats ($F_{2,512} = 0.1$, $P = 0.90$). Female body masses varied throughout the winter with respect to age class and habitat (day × age × habitat: $F_{2,504} = 4.9$, $P < 0.01$). Due to the statistical interaction, subsequent analyses of body mass were conducted by age class. In immature females, there were no significant differences in temporal patterns among habitats (habitat: $F_{2,132} = 0.1$, $P = 0.88$; day × habitat: $F_{2,130} = 1.0$, $P = 0.35$), nor did body mass change during the winter period ($F_{1,132} = 2.3$, $P = 0.12$). Conversely, body mass of adult females varied throughout the winter with respect to habitat (day × habitat: $F_{2,372} =$

TABLE 2. Summary of habitat rankings with respect to environmental conditions and Western Sandpiper population structure, and inferred levels of overall suitability and interference competition in Bahía Santa María, northwestern Mexico, during the nonbreeding seasons of 1999–2001. NSD = no significant difference.

	Habitat type		
	Brackish flats	Mangroves	Cattail marshes
Environment			
Prey	High	Low	Low?
Predation danger	Low	Intermediate	High
Inferred overall ranking	Best	Intermediate	Worst
Population structure			
Bird density	High	Low	Low
Sex ratio	Male-biased	Male-biased	Even
Age ratio	Adult-biased	Adult-biased	Even
Body size	NSD	NSD	NSD
Body mass	Heavy	Heavy	Light
Mass change	Decreased	Decreased	Increased
Inferred interference	High	Intermediate	Low

9.5, $P < 0.01$). Adult mass decreased slightly in brackish flats and mangroves, while in cattail marshes mass increased over the winter period (Fig. 2). Controlling for seasonal variation, adult females in brackish flats and mangroves were heavier than those in cattail marshes ($F_{2,372} = 11.4$, $P < 0.01$; Fig. 3).

Adult males had longer exposed culmens than immature males (22.7 ± 0.0 mm vs. 22.4 ± 0.1 mm; $F_{1,1237} = 13.1$, $P < 0.01$), but exposed culmen length did not differ among habitats ($F_{2,1237} = 2.0$, $P = 0.13$). Body mass did not differ throughout the winter with respect to male age class and habitat (day × age × habitat: $F_{2,1229} = 1.0$, $P = 0.35$). Age classes differed in body mass among habitats (age × habitat: $F_{2,1231} = 2.8$, $P = 0.05$). Adult males were heavier than immature males in brackish flats and cattail marshes, and body masses of immatures were more variable among habitats than those of adults (Fig. 3). Changes in body mass throughout the winter differed between

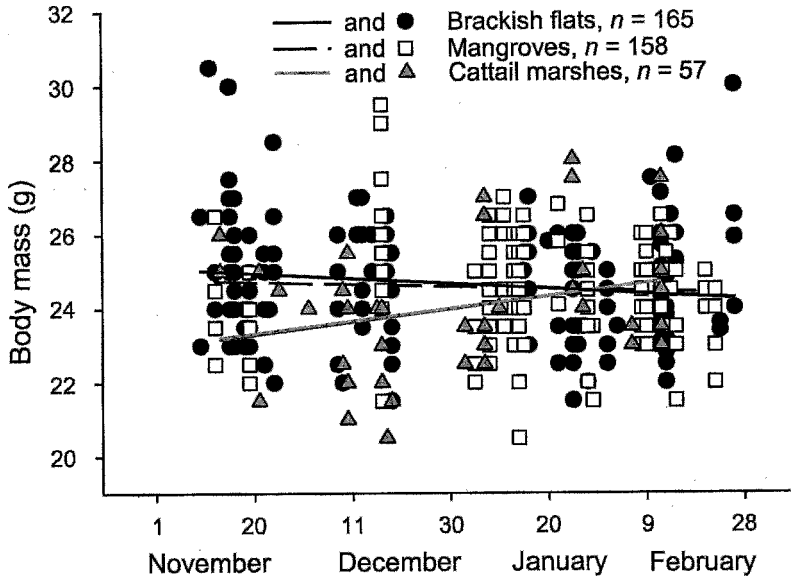

FIGURE 2. Body mass of adult female Western Sandpipers with respect to habitat type in Bahía Santa María, northwestern Mexico, during the nonbreeding seasons of 1999–2001.

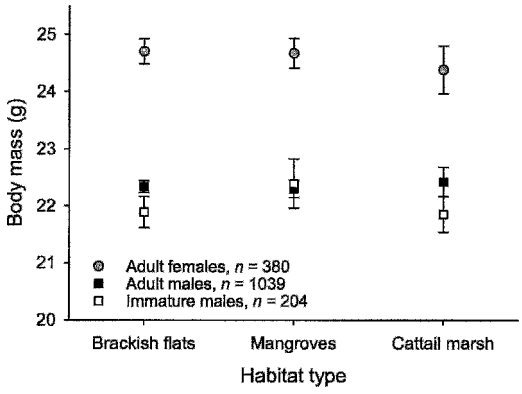

FIGURE 3. Body mass of Western Sandpipers with respect to sex and age class and habitat type in Bahía Santa María, northwestern Mexico, during the nonbreeding seasons of 1999–2001. Least-squares means (±95% CI) are shown controlling for seasonal and annual variation, and interaction terms.

age classes (day × age: $F_{1,1231} = 8.0$, $P < 0.01$); immature males increased mass during the winter period, while we detected no weight change in adult males (Fig. 4a). Variation in body mass throughout the winter also differed with respect to habitat (day × habitat: $F_{2,1231} = 7.0$, $P < 0.01$); males maintained weight in brackish flats and mangroves, and increased weight in cattail marshes over the winter period (Fig. 4b). We summarize our results among habitats with respect to environmental variables and population structure in Table 2.

DISCUSSION

We documented prey density, predation danger, and Western Sandpiper population structure across three habitats at Santa María during the nonbreeding season. Brackish flats had the highest prey density and lowest level of predation danger, and we expected them to be favored over other habitats. Cattail marshes had lower prey densities and the highest level of predation danger, suggesting that they should be the least preferred habitat, all else being equal. Mangrove areas ranked as intermediate with regard to both prey densities and predation danger. Consistent with these rankings, brackish flats supported the highest densities of Western Sandpipers, which would further lower the per capita predation probability for these individuals, but also potentially increase competition for food. Indeed, we found that birds in brackish flats tended to lose weight as the season progressed. In contrast, in cattail marshes population densities were lowest and birds tended to gain weight over the winter.

There is considerable debate about the relative importance of food resources, predators, and competitors in determining local and latitudinal distributions of wintering shorebirds (Cresswell 1994, Warnock 1994, Nebel et al. 2002, Zharikov and Skilleter 2002, Whitfield 2003). At Santa María, Western Sandpiper density covaried positively with prey distribution among habitats, as generally predicted under "competition for resources" models (Parker and Sutherland 1986). In the absence of competition, all individuals should feed in the habitat with the most food per individual, and utilize the safest habitat. For shorebirds, safety is likely to be greater as density increases (Cresswell 1994, Whitfield 2003); thus, there is an additional negative selection against dispersing into sites with lower bird densities. Our observed patterns of population density thus present a prima facie case that density-dependent competition results in certain individuals using habitats with a lower "basic suitability" (sensu Fretwell and Lucas 1970) in terms of both resources and predation danger. At certain sites in brackish flats and mangroves, a small proportion of the population (5%–7%) defended territories for hours (Fernández Aceves 2005), a clear expression of competition for resources, which could cause subordinate individuals to move into less preferred sites.

The proportion of females and immatures was higher in less preferred habitats, suggesting asymmetry in competitive abilities, and possibly despotic displacement of these classes of birds (Marra and Holmes 2001). In Western Sandpipers, adults are more selective in their use of winter habitats during low tide than immatures (Warnock and Takekawa 1995), suggesting that adults may have excluded immatures from the most profitable habitat as a function of bird densities. However, there is no conclusive direct evidence supporting these competitive asymmetries between sexes and age classes in Western Sandpipers (O'Hara et al. 2005). Small sandpipers do not form stable dominance relationships, and adults do not necessarily win aggressive interactions with immatures more often than expected (Harrington and Groves 1977, Warnock 1994).

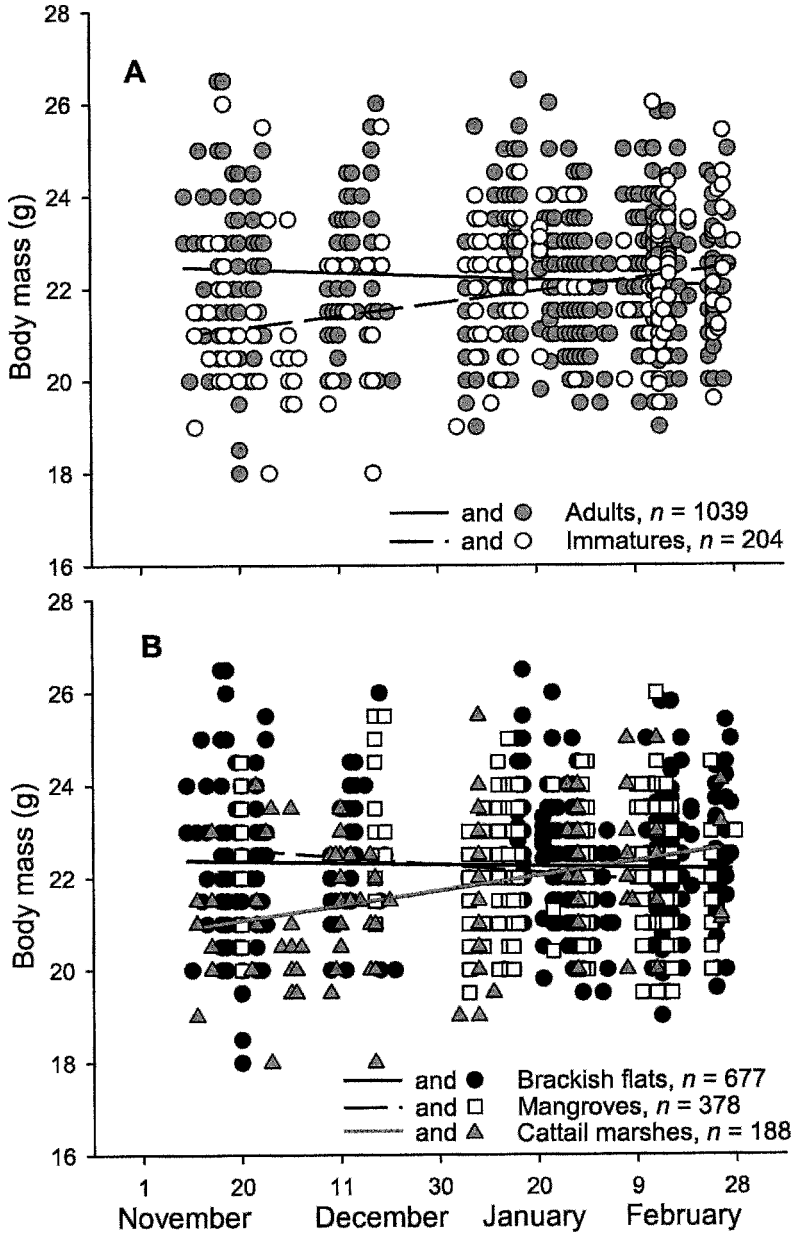

FIGURE 4. Body mass of male Western Sandpipers in Bahía Santa María, northwestern Mexico, during the nonbreeding seasons of 1999–2001, with respect to age classes (A) and habitat types (B).

An alternative possibility to competitive displacement from a globally preferred habitat is that birds with different morphologies, experience, or other attributes specialize in different habitats (Ydenberg et al. 2002, Zharikov and Skilleter 2002). In Western Sandpipers, the sexual dimorphism in bill length, which correlates with different foraging techniques, may result in a degree of sex-specific niche segregation and consequent resource partitioning (Mathot and Elner 2004). The longer bills of females provide them with a larger potential foraging niche, thus the use of cattail marshes may not be as unprofitable

for females as for males. However, the "differential resource partitioning" hypothesis does not obviously account for age-class segregation. Also, although cattail marshes appear to be resource poor, this conclusion is based on a very small sample of substrate cores. It is possible that cattail marshes have higher prey densities than observed because of their finer-grained sediments and proximity to agricultural land.

Within sexes and age classes, we found no evidence of differences in structural size of birds among habitats, but there were some intriguing patterns in mass. Western Sandpipers in brackish flats and mangroves were initially heavier on average, but tended to experience slight mass loss over the winter, while sandpipers in cattail marshes were initially lighter, but tended to gain mass during the winter. This pattern was replicated in all three winters, with large sample sizes. The initial difference in mass among habitats is consistent with mass-selected habitat choice under differential predation danger (Ydenberg et al. 2002). Lighter birds may select cattail marshes as foraging habitat because they are better able to evade predators than heavier birds (Burns and Ydenberg 2002, Ydenberg et al. 2002); reduced competition in the cattail marshes may compensate for increased predation pressure and make this habitat more profitable than the more densely populated brackish flats.

The seasonal pattern in mass changes among habitats could involve at least two processes: (i) the movement of leaner birds among habitats to increase their body condition (Ydenberg et al. 2002), and (ii) the selective predation of leaner birds in cattail marshes over the winter, perhaps because of greater risk-taking by these birds when feeding (Dierschke 2003). Resightings of individually color-banded birds argue against redistribution among habitats. Within and among winters, most birds were resighted in the same habitat in which they were banded (all years combined, within winter: 72%, $n = 90$ birds; among winters: 60%, $n = 30$ birds; GF, unpubl. data), suggesting some consistency in habitat usage (but see Warnock and Takekawa 1995). If individuals differentially changed in body mass among habitats, the observed pattern could relate to habitat-specific changes in predation danger, feeding conditions, foraging abilities, or competition (Cresswell 2003, Piersma et al. 2003). We did not detect a seasonal change in raptor encounter rates among habitats throughout the winter. Birds in cattail marshes had higher vigilance and were in larger flocks than those in brackish flats, but vigilance and flock size tended to decrease in all habitats over the season (Fernández Aceves 2005). We have no direct information about changes in food availability, but the extent of water cover in each habitat decreased throughout the winter, likely reducing foraging area, increasing forager density, and potentially increasing competition in all habitats. Consistent with this idea, birds tended to increase their foraging intensity in all habitats over the season (GF, unpubl. data).

Individuals are distributed not only in relation to the resources they require, but also in relation to their competitors (Sutherland 1996). Several shorebird species studied during the nonbreeding season aggregate in areas of higher prey density, yet avoid each other to reduce interference competition (Goss-Custard 1980). We have shown a nonrandom sex and age-class distribution across habitats, with age- and habitat-specific patterns of mass change over the winter period. Understanding the proximate mechanisms controlling individual patterns of habitat use and seasonal mass changes requires more research, in particular on the interplay between social and foraging behavior in wintering Western Sandpipers. However, the fact remains that differential habitat distributions exist within nonbreeding shorebird populations and habitat quality depends on both benefits (food abundance and safety) and costs (interference competition). Habitat loss could be a major factor affecting these interconnected patterns of habitat distribution because of increased density-dependent competition (Goss-Custard et al. 1995). Thus, effective conservation of shorebird populations must include an understanding of local habitat distributions during the nonbreeding season.

ACKNOWLEDGMENTS

Numerous individuals provided field assistance, in particular V. Antonio, A. Castillo, M. Guevara, E. Loaiza, and U. Noriega. Patolandia Hunting Club provided logistical support during fieldwork. We thank the Cazares-Medina family for their help during fieldwork, and M. González, X. Vega, the González-Bernal family, and the Escuela de Biología–Universidad Autónoma de Sinaloa for support in Culiacán. This research was financially supported by the Centre for Wildlife Ecology at Simon Fraser University, the Canadian Wildlife Service's Latin

American Program, and Patolandia Hunting Club. Additional financial support was provided by Pronatura Noroeste, American Wildlife Research Foundation, Lincoln Park Neotropic Fund, and a Segal Travel Grant. Graduate scholarships from the Mexican National Council for Science and Technology (CONACYT, No. 90768), a Government of Canada Award, and a President's Ph.D. Research Stipend were awarded to GF. Birds were banded under Mexican (Dirección General de Vida Silvestre: 3876, 3278, and 3592) and Canadian (#20383-D) bird-banding permits, and procedures were approved by the Simon Fraser University Animal Care Facility Committee (No. 552-B). We thank R. W. Butler, S. M. Haig, E. Krebs, K. J. Mathot, N. Warnock, R. C. Ydenberg, and an anonymous reviewer for constructive comments on previous versions of this manuscript. This work was part of GF's doctoral dissertation at Simon Fraser University.

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The Condor 112(3):507–510
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SNOWY PLOVERS SELECT OPEN HABITATS FOR COURTSHIP SCRAPES AND NESTS

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Abstract. The population decline of the Western Snowy Plover (*Charadrius alexandrinus nivosus*) along the Pacific coast of the U.S., has been attributed, in part, to the spread of European beachgrass (*Ammophila arenaria*), which degrades nesting habitats. We compared *Ammophila* cover at the plover's courtship scrapes and nest sites with that at random locations in coastal northern California. *Ammophila* cover around nests and scrapes was significantly less than random points at several spatial scales (≤100 m) of analysis; cover around nests was also less than around scrapes. Incubating plovers ceased incubation and left nests when an observer approached to within a mean distance of 80 ± 33 m ($n = 8$). We conclude that the plover's selection of open habitats for courtship and nesting may facilitate early detection of predators. Our results indicate a minimum size for restoration projects and a distance at which fencing around nests should be placed to ameliorate the effects of human disturbance on incubating plovers.

Key words: Ammophila, Charadrius alexandrinus nivosus, *habitat restoration, nest-site selection, Snowy Plover.*

Charadrius alexandrinus nivosus Selecciona Ambientes Abiertos para sus Áreas de Cortejo y sus Nidos

Resumen. La disminución poblacional de *Charadrius alexandrinus nivosus* a lo largo de la costa Pacífica de los Estados Unidos se ha atribuido parcialmente a la expansión de *Ammophila arenaria*, una planta que degrada los hábitats de anidación. Comparamos la cobertura de *Ammophila* en las áreas de cortejo y de los nidos de *C. a. nivosus* con la de lugares aleatorios en la costa del norte de California. La cobertura de *Ammophila* alrededor de los nidos y de las áreas de cortejo fue significativamente menor que en los puntos ubicados aleatoriamente a varias escalas espaciales de análisis (≤100 m). Además, la cobertura alrededor de los nidos fue menor que aquella alrededor de las áreas de cortejo. Las aves que estaban incubando dejaron de incubar y abandonaron los nidos cuando un observador se acercó a una distancia promedio de 80 ± 33 m ($n = 8$). Concluimos que la selección de ambientes abiertos para el cortejo y la anidación en esta especie podría facilitar la detección temprana de depredadores. Nuestros resultados indican un tamaño mínimo para los proyectos de restauración y una distancia a la cual deben ponerse cercas alrededor de los nidos para disminuir los efectos del disturbio humano sobre las aves incubantes.

INTRODUCTION

Many ground-nesting shorebirds, including plovers and avocets, nest in open, sparsely vegetated habitats and depend on early detection of predators and cryptic eggs to conceal nests (Lauro and Nol 1995, Winkler 2001). Plovers in particular select open habitats with little vegetation, which facilitates early predator detection (Gochfeld 1984, Martin 1988, Cresswell 1997). Hence, variation in vegetation among and within breeding sites may influence the availability and selection of nest sites (Howe et al. 1989, Brusati et al. 2001). Understanding influences of vegetation on nest-site selection is fundamental to successful habitat management and restoration for shorebird species of special concern.

The Western Snowy Plover (*Charadrius alexandrinus nivosus*) was listed as threatened in 1993 (U.S. Fish and Wildlife Service 1993). Along the Pacific coast of the U.S., its population decline has been attributed, in part, to habitat degradation associated with the spread of European beachgrass (*Ammophila arenaria*) (Page and Stenzel 1981, U.S. Fish and Wildlife Service 1993, 2007, Page et al. 1995). Snowy Plovers typically nest in flat to gently sloping sparsely vegetated habitats, including wide ocean beaches, dry salt flats, and gravel bars (Bent 1929, Johnsgard 1981, Page et al. 1995, Colwell et al. 2005). *Ammophila* degrades the habitat by converting it to dense vegetation, which may alter the plover's behavior in selecting a nest site (Wiedemann 1984, 1987) and incubating.

Manuscript received 8 October 2009; accepted 20 February 2010.
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The Condor, Vol. 112, Number 3, pages 507–510. ISSN 0010-5422, electronic ISSN 1938-5422. © 2010 by The Cooper Ornithological Society. All rights reserved. Please direct all requests for permission to photocopy or reproduce article content through the University of California Press's Rights and Permissions website, http://www.ucpressjournals.com/reprintInfo.asp. DOI: 10.1525/cond.2010.090196

Anecdotal evidence suggests that nesting Snowy Plovers avoid habitats with dense *Ammophila*; however, few quantitative data exist to document this relationship (Willapa National Wildlife Refuge 1988, Chestnut 1997). Most analyses of the characteristics of the plover's nest site have been undertaken only at spatial scales of ≤1 m, which do not address the openness of habitats. For example, Wilson-Jacobs and Meslow (1984) reported no significant difference in *Ammophila* cover between nests and random points; in *Ammophila*-free habitats, Powell et al. (2000, 2001) found vegetation densities at nests higher than at random points. To date, no study has examined the Snowy Plover's nest-site selection and specifically addressed whether or not it selects open habitats (including *Ammophila* density). This information is required to meet recovery goals for the Western Snowy Plover's Pacific coast population (U.S. Fish and Wildlife Service 2007). Consequently, our objectives were to: (1) determine if the Snowy Plover's nest-site selection is influenced by *Ammophila* cover, (2) examine the spatial scale at which *Ammophila* influences nest-site selection, and (3) investigate the distance at which plovers respond to a simulated approach of a predator. We predicted that, if the plover's nesting habitat is degraded by *Ammophila arenaria*, the birds should select nest sites with *Ammophila* cover less than at random sites. Furthermore, if they avoid habitats with dense *Ammophila* cover because they limit early detection of predators, we expected the distance at which plovers flush from nests when approached by potential predators to be equal to the spatial scale at which *Ammophila* influences nest-site selection.

METHODS

We studied Snowy Plovers along 10 km of ocean-fronting beach (Clam Beach County Park and Little River State Beach) in Humboldt County, California. Beach width varies from 2 to 500 m. Between 10 and 32 plovers bred annually at the site from 2000 to 2006, constituting 17–56% of Humboldt County's annual breeding population (Colwell, unpubl. data). To protect nests from predators, approximately 50% of nests each year were surrounded by exclosures.

Ammophila was introduced to the local dunes in the early 1900s and has since spread and replaced native vegetation, filled previously unvegetated habitats, altered dune structure, reduced floral diversity, and dominated back-dune habitats (Buell et al. 1995). Approximately 40% of back-dune habitats are currently covered with *Ammophila*. Although sparse, the European searocket (*Cakile maritima*) and sand verbena (*Ambronia umbellata)* also grow in back-dune habitats. Flooding and scouring by the tides have left foredunes relatively free of *Ammophila*, although varying densities of pioneering sprouts are evident throughout the study area.

We examined the influence of *Ammophila* cover on the plover's nest-site selection by comparing percent *Ammophila* cover at nests, courtship scrapes, and random sites. To find nests and scrapes, we systematically searched fore- and back-dune habitats at 1- to 2-day intervals from mid March through August. Using handheld GPS units, we recorded locations of nests and scrapes and later superimposed the coordinates onto a 2005 ortho-rectified aerial photo. At each scale of analysis we generated a number of random points proportional to the number of nests. We removed any random point that occurred on a substrate other than sand (i.e., *Ammophila* or water) from the analysis and replaced it with a new random point. The numbers of nests initiated varied from 1 to 14 monthly.

Snowy Plovers typically scrape many times before selecting a nest site; consequently, the number of scrapes exceeded the number of nests (Page et al. 1995). Each month, we randomly selected a sample of scrapes proportional to the number of nests initiated so as to represent *Ammophila* cover at all scrapes during the 4-month breeding season. In this way, we were able to account for seasonal changes in the plover's scraping behavior and compare habitat characteristics of scrapes formed but not subsequently used to those eventually selected for egg laying.

To investigate the effect of spatial scale on our results and the scale at which plovers selected open habitats for nesting, we used ARCGIS to superimpose a grid of equally spaced lines onto a 2005 ortho-rectified aerial image (resolution 1 m) of the study site (USDA 2007) and circles of radii 10, 25, 50, 100, and 150 m around each nest, scrape, and random site. Spacing between grid lines increased in proportion with the concentric circles around points. Consequently, numbers of sample points (and thus power) at all scales of analysis were equal.

Ammophila dominates the landscape, and its matted texture, long slender foliage, and characteristic growth pattern clearly distinguished it from most herbaceous and woody species and made it easy to recognize in the high-resolution color photos (Buell et al. 1995). Using a point–intercept method (Heady et al. 1959), we estimated percent *Ammophila* cover by dividing the number of points where grid lines intersected *Ammophila* by the total number of line intersections within each circle. To determine if differences in *Ammophila* cover at larger scales (25, 50, 100, and 150 m) were independent of cover at smaller scales, we also estimated the percent of *Ammophila* cover independent of the area inside all circles with a smaller radius. We normalized all data with an arcsine transformation. Between 2005 and 2006, *Ammophila* cover at nests decreased by 2, 2, and 1% at 10, 25, and 50 m of analysis, respectively, and increased by 3 and 5% at 100 and 150 m of analysis, respectively. Between the two years, however, *Ammophila* cover did not differ significantly at any of the five spatial scales ($P = 0.11–0.85$). Consequently, we pooled years for analysis. We used a one-way ANOVA test to compare the mean *Ammophila* cover at nests, scrapes, and random points at each of the five spatial scales (10, 25, 50, 100, and 150 meters) and used Tukey's test to determine where significant differences lay.

Snowy Plovers do not aggressively defend nests from predators; rather, they leave nests when they detect a potential predator and rely on the eggs' crypsis and distraction behaviors to conceal the nest (Page et al. 1985, 1995). Given that little information is available regarding the distance at which incubating adults leave clutches, we conducted a simple experiment in which an observer walked directly at an incubating plover and recorded the distance at which the adult left the eggs. All trials took place in open habitats, which allowed plovers the earliest possible detection of the observer. To account for temporal variations in flushing behavior, we approached nests only between 06:30 and 09:30 (PST); we did not approach a nest twice on the same day. We summarized these data as the mean (±SD) distance at which plovers left nests and compared these distances to data on nest-site selection.

RESULTS

We sampled a total of 72 nests (36 in each year) initiated by 45 plovers (19 of which nested both years). *Ammophila* cover around nests, scrapes, and random points differed significantly within radii of 10 ($F_{2,210} = 24.32$, $P < 0.001$), 25 ($F_{2,210} = 12.46$, $P < 0.001$), 50 ($F_{2,210} = 5.30$, $P < 0.01$), and 100 ($F_{2,210} = 3.10$, $P < 0.05$) m but not within a radius of 150 m ($F_{2,210} = 0.59$, $P = 0.56$). Post-hoc Tukey's tests showed that nests occurred in more open habitats, as evidenced by significantly lower *Ammophila* cover, than did random sites at all spatial scales ≤100 m (Table 1). Results did not differ significantly when cover was analyzed independent of the area inside all circles of smaller radius. Plovers nested in more open habitats than where they scraped, as evidenced by significantly less *Ammophila* cover at all spatial scales ≤50 m (Table 1). We approached females incubating eight different nests on 37 occasions. The distance at which they flushed and days of incubation were not significantly correlated ($P > 0.05$). Female plovers left nests when observers were at a mean distance of 80 (±33 SD) m.

TABLE 1. Percent *Ammophila arenaria* cover at Snowy Plover nests, scrapes, and random sites at Clam Beach County Park and Little River State Park in Humboldt County, California, 2005–2006.

Sample radius (m)	Nest[a]		Scrape[a]		Random[a]	
	Mean	SE	Mean	SE	Mean	SE
10	6A[b]	1.35	12B	2.24	35C	4.64
25	16A	1.71	25B	2.28	37C	4.19
50	28A	2.18	35B	2.23	41B	3.81
100	40A	2.20	45AB	2.06	48B	3.40
150	48A	2.08	50A	2.07	47A	3.14

[a] $n = 71$.
[b] Row means not sharing a common letter differed significantly ($P < 0.05$).

DISCUSSION

Our study is the first to demonstrate that (1) Snowy Plovers select nest sites with significantly less *Ammophila* cover, and consequently more openness, than random sites at scales of ≤100 m, (2) when approached by a potential predator, incubating plovers flush from nests at the same scale at which they select the openness of the habitat, and (3) the openness of habitat at plover nests is significantly greater than that at scrapes.

Our study is the first to demonstrate quantitatively that Snowy Plovers select nesting habitats that are open and relatively free of *Ammophila* cover and that this selection occurs at all scales ≤100 m. The relatively large scale (~100 m) at which plovers selected *Ammophila*-free habitats suggests that restoration of the Snowy Plover's breeding habitats should assess the openness of habitats. Restoration intended to attract breeding plovers should be at a scale large enough to allow openness sufficient for nesting birds. Furthermore, fencing erected to minimize human disturbance should be placed such that people cannot approach closer than 100 m.

We showed that plovers initiated nests in habitats more open than those in which they performed courtship scraping. During courtship, males typically lead females and scrape multiple times over a period of days to weeks; females ultimately select one of these scrapes in which to lay eggs (Page et al. 1995). We found that plovers scraped in habitats slightly less open than that around nest sites, suggesting that the behaviors of courtship associated with scraping differ from nest-site selection. Although the majority of plovers at the study site were individually marked, we matched breeding pairs to nests only, not to scrapes. Consequently, we were unable to reconstruct the sequence of habitats (from courtship to egg laying) within which the birds scraped. For the role of scraping in nest-site selection to be better understood, future studies should attempt to document the chronology of scrapes leading up to egg laying. Furthermore, habitat selection is not always synonymous with habitat quality. To understand the effects of openness on the quality of habitat in which the Snowy Plover breeds, more information is needed on relationships among the openness of nest sites, nest survival, and causes of nest failure.

ACKNOWLEDGMENTS

We thank N. Burrell, W. Goldenberg, M. Johnson, E. Jules, S. Mullin, Z. Nelson, and C. Wilson for field assistance. Our work was funded by the California Coastal Commission, California Department of Fish and Game, California State Parks and Recreation, Eureka Rotary Club, Humboldt County Fish and Game Advisory Commission, Humboldt County Planning Department, Humboldt State University, Mad River Biologists, Marin Rod and Gun Club; MRBR, Inc., Redwood Region Audubon Society, Stockton Sportsmen's Club, U.S. Bureau of Land Management, U.S. Fish and Wildlife Service; Western Section of the Wildlife Society, and California Department of Fish and Game's Oil Spill Response Trust Fund through the Oiled Wildlife Care network at the Wildlife Health Center, School of Veterinary Medicine, University of California, Davis.

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Predation risk on incubating adults constrains the choice of thermally favourable nest sites in a plover

Article *in* Animal Behaviour · February 2004

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ANIMAL BEHAVIOUR, 2004, 67, 293–300
doi:10.1016/j.anbehav.2003.06.014

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Predation risk on incubating adults constrains the choice of thermally favourable nest sites in a plover

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*(Received 30 May 2002; initial acceptance 23 July 2002;
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Birds are thought to choose nest sites that meet two main functions: providing security to both nest contents and incubating adults, and providing an appropriate microclimate for incubation. Many shorebirds nest in sites with no or little cover. In a lake in southern Spain, nearly 70% of the nests of Kentish plovers, *Charadrius alexandrinus*, were in sites with little or no cover, where ambient temperatures might be more than 50°C during very hot days, thus causing the incubating adults to suffer from heat stress. We tested the hypothesis that Kentish plovers nest mainly in exposed sites because this may allow the incubating birds to detect approaching predators early, and thus to reduce predation risk. When we occluded the view that incubating adults had from their nests, they took longer to detect approaching predators than when the view was unrestricted. Incubating adults were also more frequently killed by mammals in covered than in exposed nests. Females that nested in covered sites were in lower body condition than those nesting in exposed sites, possibly because they were unable to withstand the high ambient temperatures in exposed sites. Thus, the benefits of thermally favourable nest sites are reduced by the constraints of predation risk.

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The effects of predation may have a considerable impact on the life history strategies of animals, and in particular on the choices of foraging and nest sites (Lima 1990; Martin 1993). Animals can assess and modify their risk of predation by seeking sites where this risk is lower (Lima & Dill 1990). Predation is the main cause of avian nest failure (Skutch 1949; Ricklefs 1969), and may also represent an important source of adult mortality at nests (Sargeant et al. 1984). Even if the risk of predation on adults attending nests is small, its consequences for the breeding strategies of birds are not negligible (Curio & Regelmann 1986; Lima & Dill 1990; Lima 1993), given the importance of life span on lifetime reproductive success (Thomas & Coulson 1988; Martin 1993). Therefore, natural selection should favour individuals that choose nest sites that minimize the risk of predation, on both nest contents and incubating adults.

In addition to providing security, another important function of nest sites is to provide an appropriate microclimate for incubation. For birds, high environmental temperatures may impose a need to conserve water, especially in arid environments. One way in which birds may reduce thermoregulatory costs is to seek thermally favourable sites, which may be achieved simply by shifting between microsites that may be separated by only a few centimetres (Thomas & Maclean 1981; Wolf & Walsberg 1996). However, this strategy is not usually possible for birds incubating under direct solar radiation, since if the incubating bird moves to a thermally more favourable place, the eggs would remain uncovered and could reach lethal temperatures in only a few minutes, unless they are moved as well (Grant 1982). Many shorebird species nest in sites with little or no cover. Temperatures at ground level in this type of site may exceed 50°C during the hottest parts of the day, and the incubating birds may thus incur heat stress (Purdue 1976; Grant 1982; Ward 1990).

Given that covered sites, where incubation would not be so heat stressful, may be readily available, it seems paradoxical that shorebirds do not use them more frequently. It has been suggested that many shorebirds nest in exposed sites to facilitate early detection of predators (Grant 1982; Maclean 1984; Burger 1987; Ward 1990; Lauro & Nol 1995). Most adult shorebirds do not use cover to escape from predators, but take flight instead. Objects that obstruct vision may hamper predator detection close

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0003–3472/03/$30.00/0
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to the nest, allowing the incubating adult to be caught by surprise. For shorebirds, it therefore seems important to detect predators early, which is greatly facilitated by an unrestricted view (Metcalfe 1984; Lima 1992; Götmark et al. 1995; Koivula & Rönkä 1998).

Weidinger (2002) showed that there are complex interactions between factors influencing nest predation, within as well as between species. Indeed, within shorebird populations there is a remarkable diversity in the use of cover of nest sites (e.g. Fraga & Amat 1996). What this may tell us is that the benefits and costs of nesting in different situations may not be similar for all individuals. Thus, some individuals would expose themselves to more risky situations than others. According to the theory of state-dependent life histories, shorebirds of different physiological states should adopt different nesting tactics (McNamara & Houston 1996). For instance, if nesting in exposed sites imposes a physiological cost on incubating birds, body condition could affect the use of exposed sites, which are not protected from direct solar radiation and in which thermoregulatory costs may be higher. Wiebe & Martin (1998) showed that white-tailed ptarmigan, *Lagopus leucura*, females in poorer body condition more frequently used covered sites, where predation on incubating birds was higher, than females in better condition.

In consequence, conflict between demands for escape from predators and thermoregulation may occur if incubating shorebirds are more vulnerable to predators when they nest in thermally favourable sites. A solution to this trade-off is to choose sites where the adults can quickly detect approaching predators, even though they make the nest contents more vulnerable to predators (Marzluff 1988; Götmark et al. 1995; Wiebe & Martin 1998; Whittingham et al. 2002). Seasonal differences in ptarmigan nest sites led Wiebe & Martin (1998) to conclude that microclimate should be more important than predation pressure in determining the choice of site. However, some shorebirds nesting in hot environments do not show seasonal variations in the characteristics of nest sites (Fraga & Amat 1996), despite facing heat stress throughout the nesting season, suggesting that predation pressure should be more important in this case in determining the choice of nest site. This may indicate that the resolution of this type of trade-off may depend on species identity or environmental conditions.

Wiebe & Martin (1998) based their conclusions on observational data. We used observational and experimental data to investigate how incubating Kentish plovers, *Charadrius alexandrinus*, cope with predation risk. This species readily nests on exposed sites, even in hot environments (Grant 1982; Page et al. 1985; Warriner et al. 1986; Fraga & Amat 1996). We analysed (1) whether predation on incubating adults was more frequent at more concealed sites, as well as the responses of incubating birds to predators; (2) whether males were more vulnerable than females to predators, since males perform most nocturnal incubation (Nakazawa 1979; Fraga & Amat 1996; Kosztolányi & Székely 2002), and in these conditions the detectability of predators may be lower because of reduced visibility; and (3) whether the choice of nest sites was dependent on the body condition of incubating adults. Kentish plovers are sequentially polygamous (Page et al. 1985; Warriner et al. 1986; Fraga & Amat 1996). If there is sex-related mortality of incubating adults, the operational sex ratio, and hence the opportunities for polygamous matings, could be affected as well.

METHODS

Study Site

Our study was conducted at Fuente de Piedra lake (1354 ha), in Málaga province, southern Spain (37°06′N, 4°45′W), during March–July 1991–1999. Artificial dykes and islets were constructed at the lake during the 20th century, when the salt was commercially exploited (Rendón-Martos & Johnson 1996). Kentish plovers nest on these dykes or islets (both termed hereafter 'islands') and on the lake shore. The water level in the lake varies both within and between breeding seasons, and when very low, island sites are accessible to terrestrial predators. The lake remained dry during most of the breeding season of 1995, but flooded in 1991 and 1996–1999, whereas in 1992–1994 it dried up before the breeding seasons had finished. Because of exceptionally high water levels (>1.65 m), the islands were covered with water in 1997 and 1998.

In this lake, *Arthrocnemum glaucum* is the main plant species used as nesting cover by Kentish plovers (Fraga & Amat 1996). This plant is abundant on the lake; it covers all islands and forms a belt 10–200 m wide around the lake.

Nesting Biology

Once a nest was found, it was individually marked, and the same observer (J.A.A.) recorded its degree of cover, according to four categories: 0 when the nest was completely exposed, and 1–3 when the nest was >75%, 25–75% or <25% exposed. J.A.A. walked 360° around the nest and estimated the percentage of circumference length (radius approximately 1 m, centred at the nest) from which the nest was visible, i.e. not occluded by cover. As an indicator of possible heat stress, we measured solar irradiance on the horizontal plane at the centre of nest scrapes and also at a completely exposed site about 1 m from the nest site, by using a LI-COR pyranometer sensor LI-2000SZ (LI-COR, Lincoln, Nebraska, U.S.A.). The measurements were taken on 2 consecutive days with clear skies, between 0800 and 1200 hours GMT, once the nesting season of 1991 had finished. Solar irradiance at each nest site was expressed as the percentage of the irradiance recorded at the site relative to that recorded at a corresponding exposed site nearby.

Adults were captured at nests using walk-in traps, and were individually marked with a metal ring and a combination of three colour rings. We weighed them, with a Pesola spring balance (to the nearest gram), and, using vernier callipers and a rule, we also measured bill (culmen) and tarsus lengths (to the nearest 0.1 mm) and wing length (to the nearest millimetre).

We also noted whether active nests ($N = 270$) would be accessible to mammalian predators. A nest was considered active from the date of laying of the first egg until the nest was no longer attended by adults. All nests on the shore were accessible to mammals, but nests on islands were accessible to mammals, as evidenced by the presence of footprints, only when water covered less than 40% of the lake's surface, because under such circumstances most islands remained in contact with the lake shore. We revisited nests every 3–6 days to determine their fate. Evidence of hatching included subsequent observation of colour-marked adults with chicks, or the presence of chicks or small pieces of detached eggshell membranes in the nest. Evidence of predation included yolk or partially eaten eggs in the nests, or the disappearance of eggs before expected hatching. Nests were considered deserted when eggs were cold on subsequent visits and successful when at least one egg hatched. To disentangle the effects of mammals on nesting success, we estimated survival times of nests according to whether the nest sites were accessible to terrestrial predators while the nests were active.

If the laying date of a nest was unknown, we estimated the number of days that the nest had been active, using an equation that took into account the rate of daily mass loss of eggs during incubation in relation to egg volume (for details see Fraga & Amat 1996; Amat et al. 1999b). For unsuccessful nests, we assumed failure to have occurred midway between the last visit on which the nest was active and the following visit. There were no differences in the rates at which nests in different habitat types were visited.

We also recorded all cases of predation on incubating adults. We witnessed only two cases of predation, both on birds that left their nests to perform distraction displays to predators. In the remaining cases we did not see predation events, but identified adults killed by predators by the colour and metal rings. The species of predator could rarely be identified, but was inferred in some cases from footprints recorded within 10 m of the nests.

Responses to Predators

To determine the behaviour of incubating adults, during 1997–1999 we set up blinds 15–20 m from 42 nests, and recorded the responses of the plovers to potential predators, including dogs, as well as birds flying within 50 m of the nests, such as raptors (kestrel, *Falco tinnunculus*, peregrine falcon, *F. peregrinus*, black kite, *Milvus migrans*, booted eagle, *Hieraaetus pennatus*, Montagu's harrier, *Circus pygargus*, and marsh harrier, *C. aeruginosus*), gull-billed terns, *Gelochelidon nilotica*, shrikes (great grey shrike, *Lanius excubitor*, and woodchat shrike, *L. senator*) and ravens, *Corvus corax*. The terns and woodchat shrikes do not prey on adults, although at Fuente de Piedra the terns are the main avian nest predators (Fraga & Amat 1996). We allocated the responses to predators to the following categories (for definitions see Cairns 1982; Zharikov & Bondrup-Nielsen 1996): (1) aerial pursuit of avian predators, (2) 'tail-up' display to aerial predators, (3) no reaction, (4) crouch tightly on the nest, (5) run away, and (6) fly away. At Fuente de Piedra, distraction displays were infrequent when we approached the plover nests and were never observed from blinds. The continuous observation periods from blinds lasted a mean $\pm$ SD of 225.6 ± 56.80 min/nest ($N = 42$).

During 1998–1999 we performed an experiment to determine whether the ability of incubating plovers to detect approaching predators was affected by the degree of nest concealment. For this experiment, we chose nests that had been incubated for more than 5 days. We did not find effects of stage of incubation on the responses of plovers (data not presented), except for a few hours before hatching, so we did not include nests on the last day of incubation. We covered 11 Kentish plover nests that initially had no cover with twigs of *Arthrocnemum* bushes, so that these nests resembled nests with the highest degree of cover (category 3). Cover was manipulated from a few hours before observations started until observations at each nest finished, which usually took less than 10 h. A control group of 10 completely exposed nests was not covered with vegetation. Treatments were randomly assigned to nests. The off-duty parent does not always remain in the nesting area, but may move to forage elsewhere when relieved by its partner. To keep conditions constant, and avoid situations where the off-duty parent might prevent predators from approaching, we captured the males of the two groups of nests about 5 h before starting observations, and kept them in captivity (approximately 8–10 h) until we finished observations at their nest. Males were captured at sunrise, as incubation shifts between pair members usually occur at that time. Because females incubate during daylight (Fraga & Amat 1996; Kosztolányi & Székely 2002), nests were not left unattended. Captive males were maintained in individual cages (1×0.5 m and 0.8 m high), where food (a mixture of mealworms, fly larvae and pieces of hard-boiled hens' eggs) and water were provided ad libitum. Observations of the responses of the incubating plovers in these two groups of nests were conducted from a blind, as described above, from 1000 to 1500 hours GMT.

We also performed another experiment during 1999 to collect data on flushing times of the incubating plovers according to the visibility that they had from their nests. Nests for this experiment were selected arbitrarily, and all had no cover and were on the lake shore. We did not remove one of the pair members in this experiment, because we recorded data arbitrarily according to time of day. To record flushing times when the visibility from the nests was obstructed, on one side of the nests we placed a row (50 cm long $\times$ 30 cm tall) of twigs of *Arthrocnemum* bushes perpendicular to the lake shore and 15 cm from the nest scrape, ensuring that visibility was completely obstructed from the opposite side, from which we approached directly from 300 m by walking at constant speed, during both day (12 nests) and night (six nests). Even during the night, this was easily accomplished, as the zone of the lake shore where the plovers nested is narrow (10–15 m) and the nests were easily found. Another group of completely exposed nests in which visibility was not manipulated served as a control, during both day (12 nests) and night (five nests). Treatments were randomly assigned to nests.

Because the precise moment when the plovers departed from nests could not be determined visually at night, we estimated it from the difference in time from when the plover stopped incubation and we arrived at the nests. To record this time, 1–2 h before flushing incubating birds, we substituted one of the eggs in the nests by a Kentish plover egg filled with plaster of Paris, into which a thin (36 gauge) copper–constantan thermocouple had been inserted. The original eggs were placed in nearby nests. The thermal conductivity of plaster of Paris is identical to that of a natural egg (Ward 1990). The thermocouple was connected to an Omega OM-550 datalogger (Omega Engineering, Inc., Stamford, Connecticut, U.S.A.), which recorded temperatures every second. We stopped data recording by the datalogger immediately after we arrived at the nest site, and then returned the original eggs to their nests. (Hatching success was not affected.) We established flushing time by recording the time between a drop in egg temperature and the moment at which the datalogger was stopped.

To confirm that the moment the incubating bird left the nest matched a corresponding change in egg temperature, in 14 nests we placed an egg filled with plaster of Paris and connected the thermocouple to a datalogger. We set up a blind 15–20 m from these nests, from which we waited until the incubating birds had been incubating for 10 min, after which we flushed them. At the same moment that the birds left the nests, we started a stopwatch. We then approached the nests and stopped simultaneously both the datalogger and the stopwatch. This procedure confirmed that the time elapsing from the moment the egg temperature fell until our arrival at the nests provided a reliable estimate of flushing times, as there was an almost perfect correlation between the moment in which the incubating bird left the nest and we stopped the datalogger and the time recorded with the stopwatch (Pearson correlation: $r^2_{12} = 0.96$, $P < 0.001$). However, if ambient temperature is high, the drop in egg temperature may not be accurately recorded. To avoid this, we recorded the data on flushing times when ambient temperature was below 23°C.

Statistical Analyses

In most analyses we considered only one nest per female. Only first nests were considered, that is, renesting attempts within a breeding season were excluded. When we had several nests per female during different years, the nest of the corresponding female included for the analyses was chosen at random. Sample sizes differ in some analyses because some nests were protected with enclosures for other purposes (Amat et al. 1999b), and we ignored these when calculating nesting success but included them in other analyses (e.g. choice of cover, body condition of incubating adults). Data were tested for normality before being analysed with parametric tests. If they were not normally distributed, they were transformed following Zar (1984), but nontransformed data are presented to facilitate interpretation.

To test the hypothesis that use of nesting cover is dependent on body condition, we chose individual plovers that changed nest cover category between years, and compared their condition in the different categories. Renesting attempts were not considered for this last type of comparison. To derive a measure of structural body size, we used the first principal component scores (PCI) from culmen, tarsus and wing lengths. These variables loaded positively on the first axis, which explained 45% of the variation in size. For an index of bird condition, we used the residuals of a regression of body masses on these PCI scores. We performed these calculations separately for males and females. Because we caught the plovers at different stages of incubation, changes in body mass during incubation would affect the reliability of the body condition index. Nevertheless, a study in Fuente de Piedra showed that there were no statistically significant changes in body mass for female or male Kentish plovers during incubation (Amat et al. 2000). We have no direct evidence that body condition during incubation is indicative of condition at the moment that females decide where to lay. However, we have no reason to suspect that this would be the case, as female shorebirds acquire nutrients for egg formation just before laying, and do not capitalize on stored reserves (Klaasen et al. 2001).

Statistical tests were conducted with SYSTAT (Wilkinson 1990). Unless otherwise indicated, mean values are presented ±1 SD. Tests were two tailed.

RESULTS

Nest Cover and Predation

We found 360 Kentish plover nests, most of which were in sites with little or no cover (Fig. 1). The choice of covered sites was not limited by cover availability, since *Arthrocnemum*, the main plant used for nest cover, is abundant at the study site (Fraga & Amat 1996). Predation was the main cause of nest failure (53.5% of 256 nests). The time that nests remained active was not affected by their degree of exposure (ANOVA: $F_{3,266} = 1.89$, $P = 0.132$;

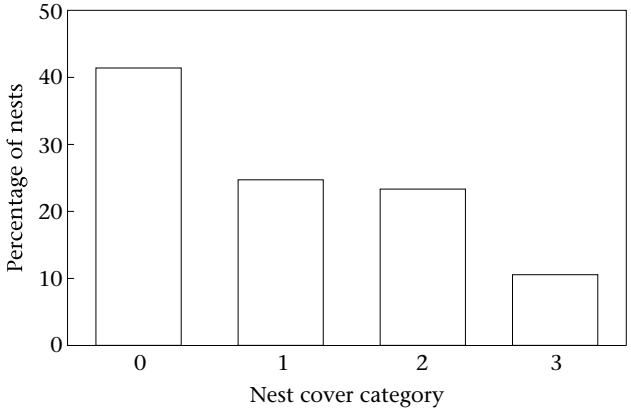

Figure 1. Frequency distribution of Kentish plover nests according to cover ($N = 360$). Nest cover was allocated to the following categories: 0 when the nest was completely exposed, and 1–3 when the nest was >75%, 25–75% or <25% exposed, respectively, from the sites 1 m around the nest.

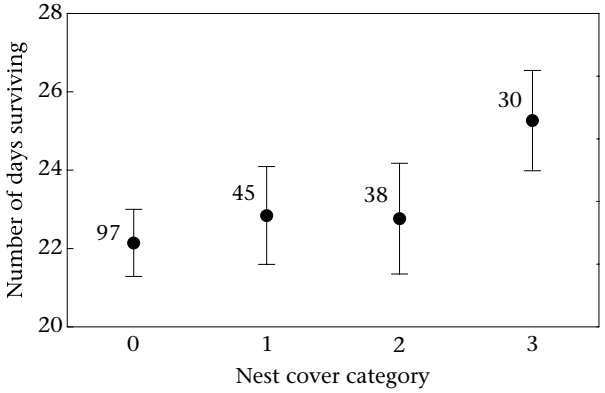

Figure 2. Mean number of days ±1 SE that Kentish plover nests survived according to their degree of cover (as defined in Fig. 1). Survival times were considered as the number of days elapsing from laying of the first egg until the eggs hatched, or were predated or deserted. The average maximum number of days that nests may survive is 31. Sample sizes are shown beside the points.

Fig. 2). Island nests not accessible to mammals survived longer (26.2±7.50 days, $N = 52$) than nests placed in accessible sites (22.3±8.58 days, $N = 218$; Student's t test: $t_{268} = 2.96$, $P = 0.003$).

Responses to Predators

Incubating plovers reacted to 66% of gull-billed terns, 78% of raptors and to all other predators (Table 1). The degree of reaction also varied according to the type of predator. Thus, the plovers flew away more frequently when raptors approached the nests than when gull-billed terns did.

To analyse the effect of nest cover on the responses of plovers to predators, we considered only the responses to gull-billed terns, as this species was the predator that more frequently approached Kentish plover nests (Table 1). The frequency with which the plovers did not react may be an indication that an approaching tern had not been detected. We calculated the rates at which individual plovers did not react to passing flying terns near their nests as the proportion of times that plovers did not react relative to the total number of times that terns passed near focal nests. Incubating plovers failed to react significantly more often in the experimentally covered nests (0.55±0.43, $N = 11$) than in the exposed nests (0.26±0.20, $N = 10$; Student's t test: $t_{19} = 2.25$, $P = 0.036$). Therefore, natural predators were apparently detected at longer distances from exposed than from concealed nests.

Table 1. Frequency distributions (%) of responses of incubating Kentish plovers when gull-billed terns, raptors or other potential predators approached their nests

Response	Terns (N=203)	Raptors (N=18)	Others* (N=8)
No reaction	34.5	22.2	0
Aerial pursuit	4.4	0	0
Tail up	1.0	0	0
Crouch tightly	11.8	5.6	0
Run away	44.8	44.4	50.0
Fly away	3.4	22.2	50.0

Number of cases that predators approached nests are given in parentheses.
*Includes dogs, shrikes and common raven.

This was confirmed in the experiment in which we flushed incubating birds. Both degree of visibility from nests (ANOVA: $F_{1,31} = 48.63$, $P<0.001$) and time of day ($F_{1,31} = 29.98$, $P<0.001$) affected the flushing times, with plovers departing sooner from nests with an unrestricted view (day: 83.4±38.9 s, $N = 12$; night: 20.4±13.2 s, $N = 5$) than from nests with visibility occluded (day: 15.4±16.5 s, $N = 12$; night: 4.0±5.3 s, $N = 6$). Also, when an observer approached, the plovers left their nests sooner during daylight hours than at night. The visibility by time of day interaction was not significant ($F_{1,31} = 0.06$, $P = 0.810$). No plover involved in this experiment performed distraction displays after leaving its nest.

Predation on Incubating Plovers

We found 23 adults preyed upon at 22 nests (1.95% of all nests found during the study, including more than one nest per female, $N = 1130$). A female and a male were preyed upon while performing distraction displays to a kestrel and two dogs, respectively. We saw a female Montagu's harrier eating a female Kentish plover about 2 m from her nest, and so she could have been caught while performing a distraction display. A male was captured on his nest by a red fox, *Vulpes vulpes*. Two females could have been killed by weasels, *Mustela nivalis*, and 11 males and both members of a pair were probably killed by polecats, *Mustela putorius*. Mammals also killed incubating plovers in four cases, which involved two females and two males, but we could not determine predator identity. To sum up, in all the instances in which predation occurred while the birds were incubating (i.e. not performing distraction displays), the predator was a mammal.

To analyse the effect of nest cover on predation risk of incubating plovers, we excluded those nests in which breeding plovers were killed while performing distraction displays to predators. Of the 19 nests in which incubating plovers were killed, one (5.26%) had no cover, two (10.53%) had cover 1, six (31.58%) had cover 2 and 10 (52.63%) had cover 3. The difference in the frequency with which incubating birds were killed according to the degree of cover of their nests is highly significant ($G_3 = 26.31$, $P<0.001$), if we assume that the cover categories of nests in which predation occurred should be similar to those with which nests were found at the population level (Fig. 1).

Males were significantly more vulnerable than females to predators while they were incubating. Five females and 15 males were preyed upon at 19 nests ($G_1 = 19.1$, $P<0.001$).

Body Condition

Exposed sites received more solar radiation (ANOVA: $F_{3,83} = 35.74$, $P<0.001$; Fig. 3) and females nesting in

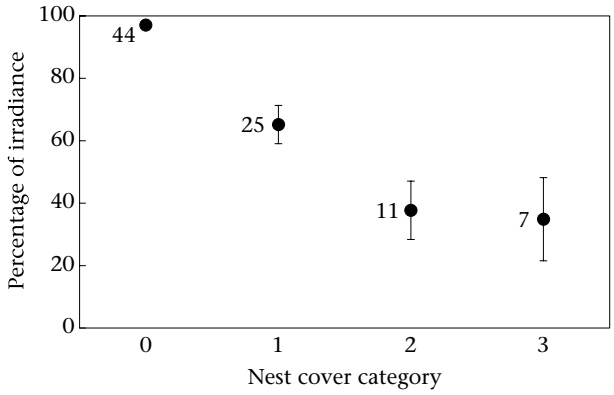

Figure 3. Percentage of solar irradiance ($\bar{X} \pm 1$ SE) at the centre of Kentish plover nests in relation to that measured in a completely exposed site about 1 m from the nest, according to degree of nest cover (as defined in Fig. 1). Sample sizes are shown beside the points.

these sites were in better body condition (condition index: 0.83 ± 3.3, $N = 61$) than when they nested in more concealed sites (-0.33 ± 2.5; paired t test: $t_{60} = 2.24$, $P = 0.029$). However, we found no significant difference in the condition of males nesting in exposed sites (0.35 ± 3.1, $N = 89$) and in more concealed sites (0.23 ± 2.7; paired $t_{88} = 0.34$, $P = 0.733$).

DISCUSSION

Predation Risk and Choice of Nest Sites

There may be trade-offs between predation risk and choice of thermally favourable sites in birds (Lima & Dill 1990). Our study shows that Kentish plovers face a trade-off in the choice of nest sites between predation risk for incubating adults and heat stress. The resolution of this trade-off is state dependent, with birds in low body condition nesting in more risky places, where they are more likely to be killed by predators than plovers nesting in safer, but more thermally stressful sites. Operative temperatures (the sum of air temperature and a temperature increment or decrement that subsumes radiative and convective factors, Bakken 1976) of Kentish plovers were on average 15°C higher in exposed than in covered sites, and plovers in exposed sites showed thermoregulatory behaviour indicative of thermal stress; in contrast, in covered sites the plovers did not show any thermoregulatory behaviour, probably because the thermal range in covered sites was within the thermoneutral zone of the plovers (J. A. Amat & J. A. Masero, unpublished data). At our study site, nest cover did not affect nesting success, probably because of a high diversity of avian and mammalian predators (Fraga & Amat 1996). Nevertheless, nests survived longer when they were in sites not accessible to mammals. Although risk of predation on incubating adults may be low, this does not necessarily imply a lack of behavioural sensitivity to predators, and it is precisely this risk that may determine habitat settlement patterns (Lima & Dill 1990; Lima 1993).

The trade-off between predation risk and choice of thermally favourable sites may mainly concern ground-nesting birds in sites where heat stress during incubation can be a problem. But there may be a similar trade-off for species breeding at colder sites: early detection of potential predators (exposed sites) versus protection against cold winds (covered sites).

Birds choose habitats based on the way in which habitat structure matches their escape tactics (Lima 1993). Götmark et al. (1995) suggested that the optimal solution to a trade-off between nest concealment and predation risk for adult passerine birds may be to nest at sites with intermediate cover. This possibility, however, may not apply to Kentish plovers. Shorebirds require a flight path to escape from predators, and vegetation may interfere with their escape by limiting movements (Metcalfe 1984; Walters 1990). Under these circumstances, detecting a predator as soon as possible may be advantageous, and we found that incubating Kentish plovers detected approaching predators sooner in exposed than in covered sites (see also Koivula & Rönkä 1998), and consequently left exposed nests sooner. It is possible that Kentish plovers in covered nests detected predators as soon as those in exposed nests, but left covered nests later because they were more difficult for the predator to detect (Ydenberg & Dill 1986). Our observations on the behaviour of incubating plovers do not support this possibility, however, since the plovers left nests almost immediately after they detected a sign of danger, as judged from their alert posture. In fact, the plovers were more frequently killed by predators in covered nests than in exposed ones.

The fact that the plovers reacted differently to different predators, showing the strongest fleeing responses to more dangerous predators, suggests that they can perceive the degree of risk, and this variation in the type of response may be adaptive (Walters 1990).

State-dependent Choice of Sites

Many of the decisions that animals take are state dependent, and, in general, animals in a poorer state accept more risky situations than those in a better state (Lima 1998). In agreement with this, we found that Kentish plover females in lower body condition nested in covered sites, where predation on incubating adults was more frequent (see also Wiebe & Martin 1998). It is likely that Kentish plover females in poorer body condition could not incubate in exposed sites because of dehydration problems resulting from direct exposure to the sun (Marder 1983). For breeding birds, physical condition should be regarded as an important component that may affect the cost–benefit trade-off of nest sites, as theoretical studies have suggested for feeding sites of foraging individuals (e.g. Lima 1998). However, the choice of nest sites may not only be condition dependent, but is probably also affected by experience with predators, as suggested by the fact that within a nesting season, nest cover did not differ between first and second nests when the first nest was successful, but was greater in second nests when the first nest had been predated (Amat et al. 1999a).

It might be that our index of body condition does not estimate true condition, and that the choice of nest sites is

affected by other factors. For instance, the more dominant pairs may nest in covered sites, and birds nesting in such sites may reduce their body mass strategically to facilitate escape from predators in such sites. If so, we should expect a greater reduction in body mass in males than in females nesting in covered sites, because as males incubate at night they are more vulnerable to predators than females are (see below). However, our results do not support that possibility. In addition and more importantly, the body condition index that we used is relevant when considering some fitness components of Kentish plovers, as both egg size and within-clutch egg size variation are negatively affected by female body condition (Amat et al. 2001a), and, within clutches, chick survival is affected by egg size (Amat et al. 2001b).

Male Kentish plovers make several scrapes within their territories and females choose one of these as a nest site (Cramp & Simmons 1983). This may explain why the characteristics of nest sites were related to the body condition of females, and not to that of males. The effect of body condition on the choice of nest sites is probably more critical for females than for males because females perform most diurnal incubation (Nakazawa 1979; Fraga & Amat 1996). Although incubating Kentish plover females were killed by predators, males suffered much more predation, probably because visibility was reduced at night, when males incubated, as suggested by our experiments on the flushing behaviour of incubating adults. Consequently, by influencing the choice of nest sites, the body condition of females caused variation in the survival of males, and hence could affect life history strategies. Thus, the interval between clutches of polyandrous Kentish plover females at Fuente de Piedra is considerably longer than in other localities, which was assumed to be caused by a limitation of potential mates (Amat et al. 1999b). By affecting sex ratios, predation of incubating adult males could limit the opportunities for polyandrous matings by females.

Acknowledgments

Consejería de Medio Ambiente (Junta de Andalucía) gave permission to conduct this research at Reserva Natural Laguna de Fuente de Piedra, as well as lodging and many other facilities. Manuel Rendón-Martos, Director of the Nature Reserve, facilitated our work during all phases of the project. In the field, we were assisted by A. Arroyo, J. L. Arroyo, R. Camerana, J. M. Ramírez, J. Rubio, M. Siquier and M. Vázquez. C. M. Herrera loaned the pyranometer to measure radiation at nests. Our thanks also to I. Quintero, U. Safriel, J. Wright and several referees for many helpful comments on the manuscript. Financial support was provided by Plan Andaluz de Investigación (research group RNM 0105) and Dirección General de Investigación Científica y Técnica (grants PB92-0115 and PB95-0110).

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Comments on Proposed Biological Mitigation Measures by Dr. Rob Roy Ramey, September 10, 2017

Oceano Dunes State Vehicular Recreation Area Updated Dust Control Program Description (Coastal Development Permit (CDP) #03-12-50), (Staff Report's Exhibit 6, Table 1).

A serious omission from the Staff Report's Exhibit 6, Table 1 concerns State Parks' scientifically supported admission in the FEIS that planting vegetation for dust control in the nesting or wintering habitat of western snowy plovers and California least terns would reduce available habitat to these species and expose them to increased predation, both resulting in "take" under the ESA (see FEIS, page 3-25 of *Errata and Revisions*, excerpt provided below), and adverse modification of critical habitat. That finding alone is grounds to reject the Commission's proposed expansion of the dust control program, as inadequate and harmful to these two ESA listed species and as inconsistent with the Coastal Act's protection of sensitive coastal biological resources (e.g., PRC § 30240). Here is what the FEIR provides:

> Planting vegetation within western snowy plover and California least tern breeding and/or wintering (snowy plover only) habitat would reduce available suitable western snowy plover and California least tern breeding and/or wintering habitat by decreasing the amount of open, wide sandy acreage. Previous studies have found that western snowy plovers and California least terns select habitats that are open (or wide) and have less vegetative cover in order to facilitate early detection of predators and reduce predation risk (Muir and Colwell 2010, Brindock and Colwell 2011, Patrick and Colwell 2014). Planting vegetation in suitable habitat for these species would reduce the open (or wide), sparsely vegetated acreages and could, thus, increase predation on adults, chicks, and/or eggs if western snowy plovers and California least terns are not able to detect predators moving towards the nest location. However, the OHMVR Division has designed Program activities to avoid western snowy plover critical habitat and active western snowy plover and California least tern nesting areas; therefore, this impact would be avoided.
>
> Currently, western snowy plover and California least tern ~~breed~~ primarily breed directly west of the Program area. However, ~~I~~it is possible foraging, breeding, and/or roosting western snowy plover and California least tern, would be encountered in the western part of the Program area. Although unlikely, western snowy plovers could possibly be encountered throughout the Program area during foraging and wintering activities. California least terns forage over open water and do not winter in Oceano Dunes SVRA; therefore, impacts to California least tern would not occur during the winter or while foraging within the Program Area.
>
> Although the OHMVR Division has developed the Dust Control Program area to avoid critical habitat and seasonal nesting exclosure areas, vegetation – and to a

lesser degree wind fencing – that is planted on the western part of the Dust Control Program area could impact active nests by providing habitat for predators to hide and stalk nesting western snowy plovers and California least terns. In addition, protective perimeter fence posts, wind fencing, and some temporary dust and meteorological monitoring equipment would be tall and sturdy enough to provide perching habitat for common ravens, gull species, raptors, or other avian species that could prey on western snowy plover and/or California least tern nests; however, the OHMVR Division has operated the S1 meteorological tower approximately 350 feet west of Oceano Dunes SVRA's seasonal plover exclosure since the 2010/11 breeding season without documented incident of increased predation.

FEIS, page 3-25 of Errata and Revisions.

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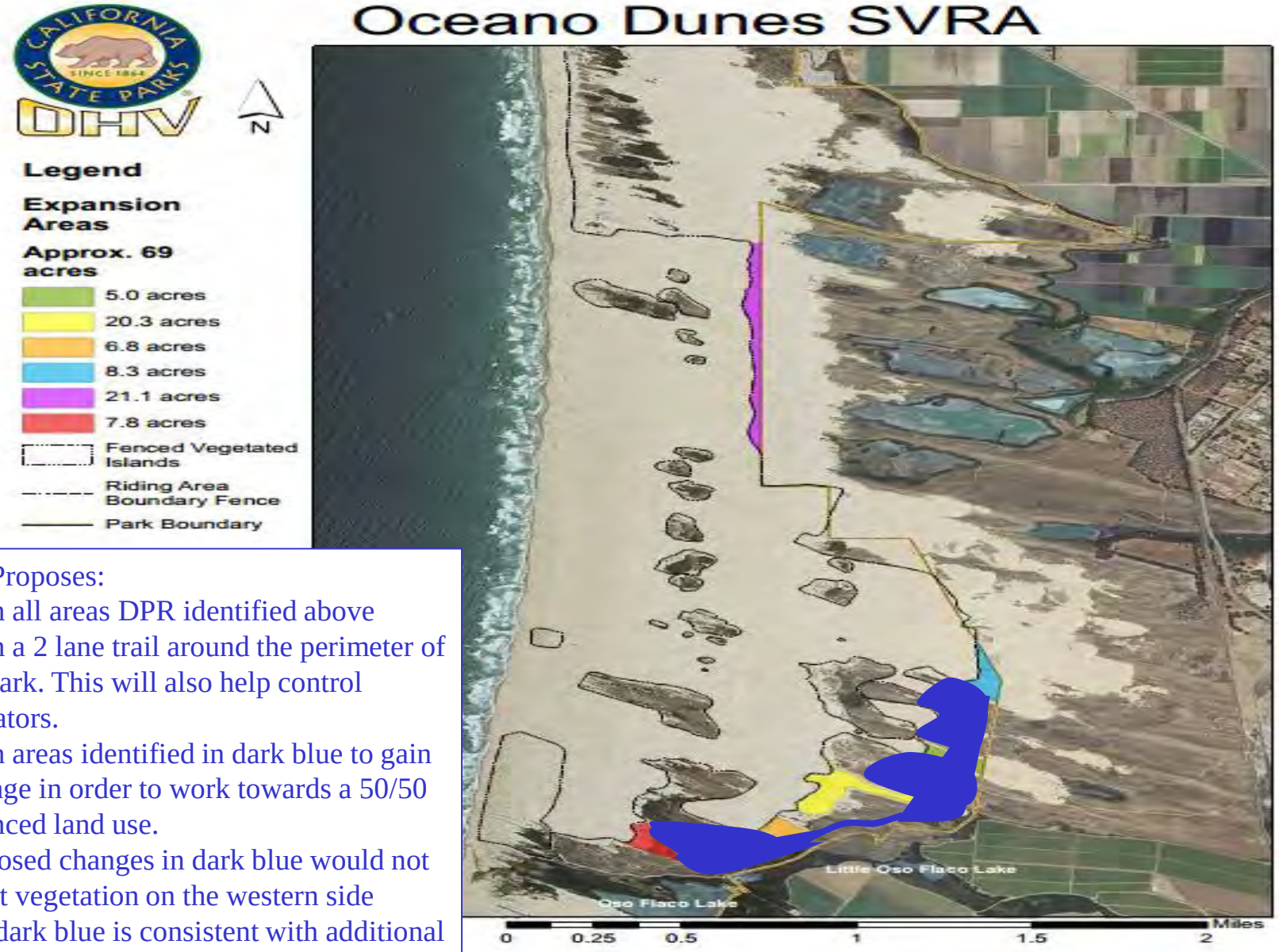
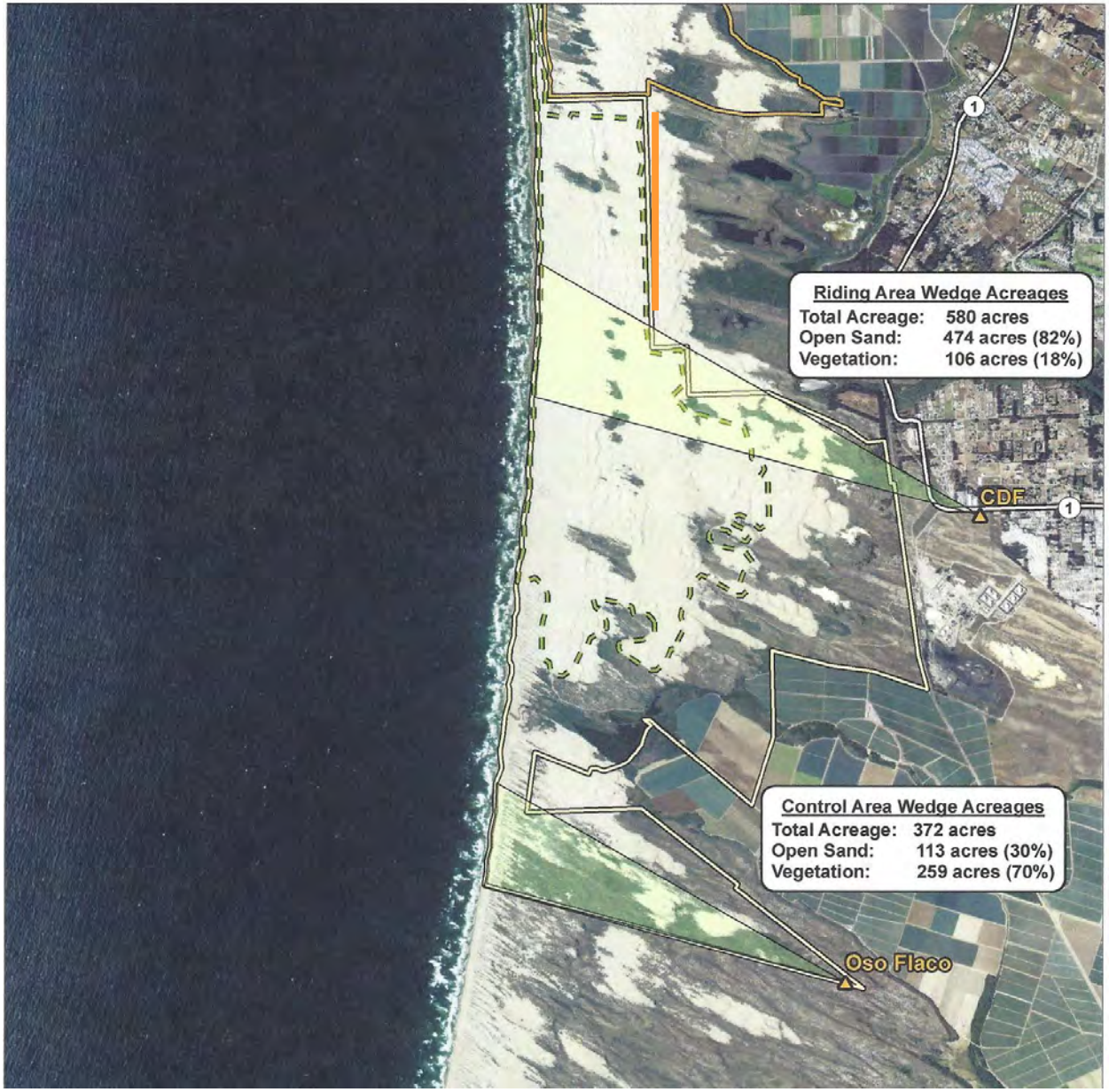
Friends of Oceano Dunes Proposed Changes



Friends Proposes:

- Open all areas DPR identified above
- Open a 2 lane trail around the perimeter of the park. This will also help control predators.
- Open areas identified in dark blue to gain acreage in order to work towards a 50/50 balanced land use.
- Proposed changes in dark blue would not effect vegetation on the western side
- The dark blue is consistent with additional access provided to the South near Little Oso Flaco Lake

Dust Mitigation Proposal



Friends of Oceano Dunes Comments
Re-Veg Island – Picture 7/3/17

Friends would like more information:

- The unintended consequence of the 7.5 ReVeg Island is the SIGNIFICANT erosion of sand on the easter side of this island (area between dotted lines). Adding more veg islands in the dunes could have a similar impact which could make the dust problem worse.
- State Parks should calculate the amount of sand removed from this area to estimate similar effects that could occur in other areas.

Friends of Oceano Dunes Comments
Re-Veg Island – Picture 2004

Friends of Oceano Dunes Comments
Re-Veg Island – Picture 2004

Friends would like more information:

- Another View - The Re-Veg island in 2004 shows little erosion of the sand on the eastern side as compared to now.

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September 6, 2017

BY E-MAIL

Kevin Kahn
District Supervisor
Central Coast District Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

Re: Request for Continuance of Commission Hearing on Proposed Dust Control Measures at Oceano Dunes SVRA; Commission Agenda Item 23b (September 14, 2017); Application No. 3-12-050 (California Department of Parks and Recreation ODSVRA Dust Control, Grover Beach & Oceano, San Luis Obispo Co.)

Dear Mr. Kahn:

This firm represents Friends of Oceano Dunes, a California nonprofit watchdog association, which represents approximately 28,000 users of Oceano Dunes SVRA.

This letter is a request for a continuance of the public hearing scheduled for September 14, 2017 on State Parks' proposed dust control program/measures at Oceano Dunes SVRA.

Commission staff first released its 159-page staff report (with exhibits) to the public at 3 pm on Friday, September 1, 2017, i.e., the beginning of Labor Day weekend. To date, staff has not released any information of report regarding the related September 13, 2017 joint presentation by State Parks and the Coastal Commission.

With respect to the hearing on the dust control measure CDP, staff has allowed four business days for the public to comment. Given the complexity of this subject matter, the fact that the program is very controversial, that State Parks and the Commission don't agree on many elements of the proposal, the

volume of materials just released by the Commission, and the fact that Commission staff itself has been working on this application for more than 18-24 months, allowing the public a mere four business days is woefully inadequate.

Such an abbreviated comment period on such an important issue does not provide the public or Friends a meaningful period of time to comment, and will result in an unfair hearing and likely legal errors in the Commission's decision. This situation is exacerbated by the Commission's severe limitations on the amount of time allotted each speaker at the hearing (typically 3 minutes or less), and the arbitrary cut off time already announced for the September 14, 2017 hearing.

Therefore, Friends requests that the Commission continue the hearing until its October 2017 meeting. Since none of the dust control measures are planned to be implemented between September 14 and mid-October, the project applicants will not experience any prejudice to their proposed project.

Thank you in advance for your attention to this matter.

Please forward this request to Chair Bochco, as her email address is not listed on the Commission's website.

Sincerely,

/s/

Tom Roth

Cc: Jim Suty, President, Friends of Oceano Dunes
Mat Fuzie, State Parks
Commissioner and Chair Dayna Bochco
Commissioner and Vice Chair Effie Turnbull-Sanders
Commissioner Mary Luevano
Commissioner Donne Brownsey
Commissioner Mark Vargas
Commissioner Ryan Sunberg
Commissioner Aaron Peskin
Commissioner Erik Howell
Commissioner Roberto Uranga
Commissioner Steve Padilla
Commissioner Carole Groom

September 11, 2017

Via Email

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RE: OSVRA Coastal Development Permit Application

Honorable Commissioners,

I represent the San Luis Obispo public interest organization, Mesa Community Alliance ("MCA"), on whose behalf I submit these comments. Members of MCA live and work on the Nipomo Mesa, and are therefore regularly exposed to unhealthy levels of dust emissions which largely originate at the Oceano Dunes State Vehicular Recreation Area ("ODSVRA"). MCA is currently involved in litigation against the California Department of Parks and Recreation ("DPR") and San Luis Obispo County because of DPR's failure to address the substantial dust emissions from ODSVRA, particularly the La Grande Tract which is owned by San Luis Obispo County.

As the Staff Report accurately describes, meticulous scientific studies conducted under the direction of the San Luis Obispo Air Pollution Control District ("APCD") have conclusively demonstrated that the operation of the ODSVRA, which involves off-highway recreation by millions of annual visitors, causes a significant increase in particulate matter emissions which directly impact the health and welfare of downwind San Luis Obispo residents. The particulate emissions from the ODSVRA frequently exceed California emissions standards. Based on these studies, which concluded that the OHV activity is a major contributing factor to the high particulate emissions, APCD adopted Rule 1001 to ensure appropriate action is taken to reduce particulate emissions to naturally-occurring levels. To date, DPR has refused to take effective action to adequately address this ongoing public health crisis.

DPR's reaction to the air studies was denial. In fact, DPR joined a lawsuit challenging the veracity of the air quality studies, siding with off-road enthusiasts and against the interest of County residents who are regularly exposed to unhealthful levels of particulates. Only after the lawsuit was decided against the DPR and off-roaders did the DPR reluctantly agreed to begin implementing minimal mitigation measures. To date, DPR has continued to experiment with half measures and ineffective measures.

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The Revised Project Description demonstrates that DPR does not intend to implement all feasible mitigation measures

The Proposed Project is little more than window-dressing because, as pointed out by the APCD, the limited mitigation measures proposed by the DPR are unlikely to substantially reduce particulate emissions from the ODSVRA to background levels. The mitigation measures proposed by the DPR are focused more on minimizing impacts on off-road recreation than they are on complying with Rule 1001 and addressing the health effects of particulate pollution on County residents.

The most significant proposed mitigation measure is revegetation, which the DPR arbitrarily proposes to limit to 20 acres a year, mostly outside the riding area which includes the most emissive areas of the park. Why not begin with 40 or 60 acres of revegetation? DPR has not offered any scientific evidence or argument to justify limiting the initial planting area to 20 acres per year. In the absence of any evidence justifying the 20 acre per year limit, it must be concluded that the 20 acre pear year limit is arbitrary and capricious.

Likewise, it makes little sense to exclude large swaths of the riding area from revegetation despite the evidence that northern riding areas include some of the most emissive areas of the park. Again, DPR has failed to offer any evidence or studies to justify its proposed exclusion of these riding areas. DPR should be required to revise the proposed revegetation plan to include all highly emissive areas.

MCA supports Staff Ecologist, Ms. Koteen's argument that revegetation must be located within the riding areas at those locations that substantial foredunes were once found. Historically, loss of vegetation along the foredunes was within the riding area.

Nor is the proposed continued use of hay bales likely to improve air quality. While MCA supports implementation of all effective mitigation measures, the evidence shows that historically, hay bales are not particularly effective in reducing particulate emissions. MCA urges the Commission to require DPR to implement only the most effective mitigation measures at its disposal, such as revegetation and perimeter fencing around highly emissive areas. Otherwise, minimal improvements will result while, on paper, DPR appears to be implementing mitigation measures.

On behalf of the MCA I urge the Commission to direct DPR to revise the proposed mitigation plan by incorporating the most updated results of the APCD's modeling efforts. After years of inaction and foot-dragging, the public simply does not trust DPR to do incorporate the latest and most sophisticated scientific studies in order to devise the most effective mitigation measures to protect public health. History has shown that DPR views all air quality studies with a jaundiced eye lest the outcome curtail off-road recreation in the park. For the sake of transparency and in order to assure the public that all that can reasonably be done is being done, we urge the Commission to direct DPR to revise the proposed mitigation plan to incorporate the results of the APCD modeling efforts now, before the CDP is approved.

The DPR's approach raises another issue which the Staff Report does not address. DPR's proposed iterative "trial and error" approach is clearly not intended to achieve immediate or even short-term compliance with the requirements of Rule 1001—which is to reduce emissions to background levels. The Revised Project Description does not explain when DPR will achieve full compliance with Rule 1001, or why DPR does not intend to achieve immediate compliance instead of taking tiny incremental steps towards compliance. MCA respectfully urges the Commission to use its legal authority to require DPR to implement more aggressive mitigation measures in order to achieve full compliance with Rule 1001 forthwith.

Questions concerning the DPR's continued management of the La Grande Tract

While the Staff Report generally does a good job of describing the Project setting and relevant provisions of the Coastal Act, the Staff Report does not adequately address a critical issue concerning the DPR's jurisdiction and authority to implement mitigation measures on the La Grande Tract, which is owned by the County of San Luis Obispo. In particular, the Staff Report's claim that the La Grande Tract "is currently leased by the County to DPR on a month-to-month basis" is simply false; there simply is no evidence of a valid lease agreement between the County and DPR.

Significantly, the County has never taken the position that the operation of the ODSVRA is subject to a month to month lease. During recent litigation relevant to this issue, the County consistently maintained that the DPR's operation of the ODSVRA at La Grande Tract is not pursuant to a valid lease or other type of agreement.

The Staff Report's claim regarding a lease agreement is also at odds with DPR's own stated position in its own Final Environmental Impact Report ("FEIR") for this Project, where in response to public comments, the FEIR states "This part of Oceano Dunes SVRA [i.e., La Grande Tract] is owned primarily by the County; however, the OHMVR Division has entered into an operating agreement with the County to operate this land." See, FEIR, Volume 2, p. 3-5. As set forth below, the operating agreement or MOU expired in 2008 and has not been renewed.

Standard 10 of San Luis Obispo County "South County Area Plan" (which is part of the County's LCP), provides:

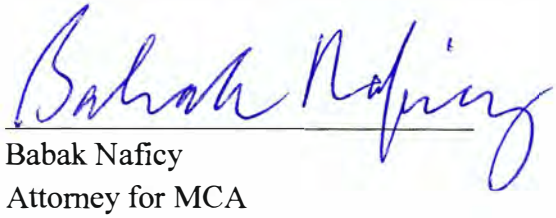
> The county-owned land south of the dune preserve shall be administered through a memorandum of understanding between the county and the State Department of Parks and Recreation. Management of the facility has been assigned to the State. This shall be reexamined periodically to establish the most appropriate management capability.

Consistent with these provisions, the County and DPR entered into a so-called Operating Agreement on June 20, 1983. This Agreement, which was valid twenty-five (25) years, expired in 2008 and is no longer valid. Neither the LCP nor the Operating Agreement included a provision authorizing month-to-month tenancy.

As part of the ongoing litigation between MCA, DPR and San Luis Obispo County, the issue of the management of the La Grande Tract was extensively litigated. MCA's position has been that pursuant to Standard 10 of the LCP, the County has a ministerial duty to ensure the OSVRA's management of the La Grande Tract is pursuant to a valid MOU. Both the County and the DPR have consistently refused to abide by this requirement, and the trial court concluded the County could not be required to comply with the explicit terms of Standard 10.

The upshot of the foregoing is that the DPR's operation and management of the La Grande Tract as part of the ODSVRA is currently unlawful as the County has not formally authorized the operation of the ODSVRA on its property as required by both common sense and the County's LCP. While MCA welcomes any and all measures to reduce particulate emissions from ODSVRA, it would be prudent for the Commission to address the issue of DPR's authority to allow off-road activities and implement mitigation measures on the County property before issuing a final CDP.

The Commission has a historic opportunity to address a serious pollution problem that for decades has plagued the residents of San Luis Obispo. With the tacit complicity of the County, DPR has demonstrated regrettable indifference towards the health and welfare of the County residents by refusing to implement meaningful mitigation measures to address the particulate emissions from ODSVRA. On behalf of the MCA, I implore the Commission to take decisive action at this time by requiring DPR to implement substantial mitigation measures.



Babak Naficy
Attorney for MCA

CENTER for BIOLOGICAL DIVERSITY Because life is good.

VIA EMAIL

September 8, 2017

Th23b

California Coastal Commission
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California Coastal Commission
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Re: Comments re Oceano Dunes SVRA CDP review and Dust Plan hearing: Th23b September 14, 2017 Commission Agenda

Dear Commissioners:

The Center for Biological Diversity ("Center") provides these comments regarding two matters: (1) the Commission's agenda item Th23b to "Implement a five-year adaptive management program to reduce particulate matter ("dust") emissions through multiple methods, including through dune stabilization and restoration," at the Oceano Dunes State Vehicular Recreation Area (ODSVRA) which is a park unit of the Department of Parks and Recreation ("State Parks"); and (2) the overall review of the coastal development permit for the ODSVRA which was begun in January 2017 and has not yet been completed.

1. **Dust Control Plan**

The Center is generally supportive of the Staff's recommendations for the dust plan so long as the plan incorporates measures to address the concerns raised by APCD, strictly adheres to the CARB modeling and provides additional protections for air quality including the following:

- Hot spots identified by the CARB model should be fenced immediately and remain fenced until sufficient air quality improvement is recorded and vegetation has grown in.

- The remainder of the La Grande tract should be designated "low intensity use," meaning for camping, hiking, a children's riding area, use by light weight vehicles only *and there should be a reduction in the number of vehicles allowed overall*. Failure to impose overall caps may have the unintended consequence that areas of lower emissions now will become the "new hot spots" in a few months as riders switch to other locations in the La Grande tract. State Parks needs to take steps to move activities off of La Grande Tract to address air quality impacts while also protecting other resources in the ODSVRA. The

Center does not believe that this can be accomplished without lowering the number of vehicles overall.

- Restoration of habitat and vegetation must be a priority. The proposed plan states up to 100 acres "could be" planted over 5 years. Much of that could be in non-riding area based on State Parks proposed dust control area. A serious effort to address the problem must include planting in additional areas that are now used for riding and limiting the riding area and number of vehicles.

- Mitigation and restoration should be done in the riding area first. That is the most emissive area.

- Artificial limits on areas or number of acres should be removed from the dust control program.

- The permit approval should incorporate a timeline and milestones for each activity as well as mandatory reporting to the Commission.

- A monitoring working group or stakeholder group comprised of Coastal Commission staff biologists, APCD and CARB representatives, State Parks biologists, California Department of Fish and Wildlife biologists, US Fish and Wildlife biologists, environmental group representatives, and the public should be convened as well.

2. Overall CDP Review for ODSVRA

While the Commission taking up the question of dust emissions and impacts to air quality due to activities at the ODSVRA is a step forward, the Center is very concerned that the "Review of the overall effectiveness of the methods being used to manage vehicle impacts in relation to coastal resources at the Oceano Dunes State Vehicular Recreation Area (ODSVRA) as required by coastal development permit (CDP) 4-82-300 as amended, in the Pismo Beach, Grover Beach, and Oceano Dunes areas of San Luis Obispo County," which was item Th14a on the January 12, 2017 agenda and *which was continued from January to September 2017* is *not* now being addressed.

Except for the dust issue, there has been no progress on issues raised by staff or by the Center and other members of the public in comments submitted to the Commission in January 2017. Even the issues raised in the December 23, 2016 Staff Report and at the January hearing remain unaddressed by the Commission although another 8 months has passed.

As the Commission is aware, there has been significant past and ongoing damage to natural resources including public trust resources at the ODSVRA.

Unfortunately, in the past State Parks has consistently favored management that promotes the use of motorized vehicle use and recreation over the need to preserve and protect fragile coastal resources, including rare and imperiled species and habitats protected under state and federal laws. Even the limited number of documents in the December 23, 2016 Staff Report show that State Parks has repeatedly failed to follow through on agreed upon measures to protect least

terns, snowy plover,[1] and other species or comply with limits required by the Commission for special events.

The Commission must review the ODSVRA CDP 4-82-300 as a whole to ensure it is adequately protective and as part of that review the Commission must take a hard look at compliance by State Parks and what is actually occurring on the ground. It is critical that the Commission ensure that coastal resources and other resources are fully protected. To that end, the Center believes that the Commission will need to consider significant amendments to the existing permit.

The Commission's lack of attention to this issue is of great concern. For example, Staff's 2016 recommendation that the access and staging report be finalized and submitted to the Commission by a date certain six months in the future was not adopted by the Commission. Thus, even the then-proposed six months to complete this report has elapsed with no action by the Commission or State Parks. And this is after more than 3 decades of foot dragging by State Parks. The resource impacts of the current interim access and staging area are significant and well known; Commission consideration of these impacts and potential alternatives that would avoid these impacts is long overdue.

In formulating amendments we urge the Commission Staff to further consider several issues that it addressed in the December 23, 2016 Staff Report and other issues.[2]

- The numeric limits on motorized vehicles at the ODSVRA should be lowered to protect resources and compliance monitored with required monthly reporting to the Commission. In the past, State Parks has failed to assess the carrying capacity for the SVRA and has also failed to comply with the limits set by the Commission for vehicles during special events. Given this history of non-compliance, Staff's 2016 recommendation to remove that existing condition limiting vehicle numbers makes no sense. Relying on future "adaptive management" without clear limits on impacts is irrational, particularly given the long history of empty promises to improve management from State Parks. When this issue is heard by the commission, which we hope will be very soon, the Commission should consider imposing even lower limits on vehicles during special events and adding limits at other times to protect resources. The Center urges the Commission to, at minimum, maintain existing limits until a scientifically rigorous study is completed on carrying capacity and resource impacts have been fully evaluated in light of current conditions.

- In light of significant documented take of snowy plover in 2016 (see Attachment A), and mortalities of California least terns over the past decade (*id*.), the Commission should consider amending the permit to further limit motorized activities within designated

[1] As the Commission is aware, the Center recently provided notice to State Parks regarding violations of the Federal Endangered Species Act and the lack of adequate protections or appropriate Federal permitting for the activities at the ODSVRA. (Attached hereto as Attachment A.)

[2] Although the December 23, 2016 Staff Report acknowledged some of the history of mismanagement and provided letters from resources agencies detailing many of these concerns, and staff's recommendations failed to provide strong enough directives to ensure that coastal resources will be protected in the future, even those minimal measures were neither considered or acted on by the Commission and no progress has yet been made on those issues.

critical habitat and other areas of the beach utilized by snowy plover and least terns at all times; that is, both during nesting seasons and non-nesting seasons.

- The Commission should consider as a term of the CDP additional specific restrictions on any motorized vehicles crossing Arroyo Grande Creek when water is flowing that connects the beach with the river. Reliance on the existing State Parks motor vehicle restrictions, which are vague and have not been consistently enforced, is not sufficient to protect the resources of the creek when water is present including South-Central California Coast Steelhead populations. The Commission should, at minimum, adopt the guidance proposed by NOAA Fisheries that would further clarify when creek crossing should be prohibited to protect steelhead particularly when the water is over one foot deep at the crossing. These measures would include surveying for smolts prior to crossings or closing the creek crossing during and after storm events for up to 48 hours or until the water has receded.(*See* Attachment A at 6-7.)

To ensure that the coastal resources are being adequately considered and protected, the Center requests that the Commission:

- Direct the permittee, State Parks, to cooperate with Commission Staff to complete the overall permit review for CDP 4-82-300 ;
- Direct Commission Staff to provide new recommendations on needed CDP permit amendments including issues identified in December 2016 and other issues raised by the Center and other members of the public by a date certain—preferably by the next Coastal Commission meeting in October 2017:
- If CDP review is delayed further, beyond October 2017, direct Commission Staff to provide written updates regarding that process on a monthly basis to the Commission and the public; and
- If no progress is made on the overall review by November 2017, the Commission should consider suspending the permit entirely at the November 2017 meeting.

Thank you for considering these comments and the Center's request. Please do not hesitate to contact us if you have any questions.

Sincerely,

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Attachment A

VIA EMAIL AND
CERTIFIED MAIL, RETURN RECEIPT REQUESTED (with attachments on disk)

July 19, 2017

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Re: Notice of Intent to Sue for Violations of Section 9 of the Federal Endangered Species Act for Taking Western Snowy Plover, Oceano Dunes State Vehicular Recreation Area

Dear Secretary Laird, Director Mangat, and Director Bonham, Regional Director Souza, and Secretary Zinke,

I am writing on behalf of the Center for Biological Diversity (the "Center") to inform you of violations of the Endangered Species Act, 16 U.S.C. § 1531, *et seq*. ("ESA") arising from activities authorized by the California Department of Parks and Recreation ("State Parks") at Oceano Dunes State Vehicular Recreation Area, and to request that you take immediate action to remedy these violations. This letter is provided to you pursuant to the 60-day notice requirement of the ESA's citizen suit provision, to the extent such notice is deemed necessary by a court. 16 U.S.C. § 1540(g)(2). The activities described in this notice violate the take provisions of the ESA and, if they are not curtailed, the Center intends to commence a civil action against you and other responsible state officials or employees, acting in their official capacity, for violations of section 9 of the ESA. 16 U.S.C. § 1538(a)(1)(B).

1. Statutory Framework

Section 9 of the ESA specifically prohibits the "take" of an endangered species, 16 U.S.C. § 1538(a)(1)(B), a term broadly defined to include harassing, harming, pursuing, wounding or killing such species, 16 U.S.C. § 1532(19). The term "harm" is further defined to include "significant habitat modification or degradation where it … injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." 50 C.F.R. §17.3 "Harass" includes any "act or omission which creates the likelihood of injury to wildlife by annoying it to such and extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering." *Id*. The ESA's legislative history supports "the broadest possible" reading of "take." *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, 515 U.S. 687, 704-05 (1995). "Take" includes direct as well as indirect harm and need not be purposeful. *Id.* at 704; s*ee also National Wildlife Federation v. Burlington Northern Railroad,* 23 F.3d 1508, 1512 (9th Cir. 1994). The ESA's prohibition on take applies equally to threatened species, unless a species-specific rule promulgated by the FWS pursuant to ESA section 4(d) provides otherwise. 50 C.F.R. § 17.31(a).

The take prohibition applies to any "person," 16 U.S.C. § 1538(a)(1), including state agencies, 16 U.S.C. § 1532(13). The ESA further makes it unlawful for any person, including state agencies, to "cause to be committed" the take of a species. 16 U.S.C. § 1538(g). Violations of Section 9 are enforceable under the ESA's citizen-suit provision. 16 U.S.C. § 1540(g).

Courts have repeatedly held that government regulations authorizing third parties to engage in harmful actions can constitute an illegal taking under Section 9 of the ESA. *See Strahan v. Coxe*, 127 F.3d 155, 158, 163-64 (1st Cir. 1997), *cert. denied*, 525 U.S. 830 (1998) (state agency caused takings of the endangered right whale because it "licensed commercial fishing operations to use gillnets and lobster pots in specifically the manner that is likely to result in violation of [the ESA]"); *Defenders of Wildlife v. Administrator, Envtl. Protection Agency*, 882 F.2d 1294, 1300-01 (8th Cir. 1989) (federal agency caused takes of endangered black-footed ferret through its "decision to register pesticides" even though other persons actually distributed or used the pesticides); *Loggerhead Turtle v. City Council of Volusia County*, 148 F.3d 1231, 1253 (11th Cir. 1998) (county's inadequate regulation of beachfront artificial light sources may constitute a taking of turtles in violation of the ESA).

The ESA authorizes private enforcement of the take prohibition through a broad citizen suit provision. "[A]ny person may commence a civil suit on his own behalf to enjoin any person, including … any … governmental instrumentality or agency … who is alleged to be in violation of any provision of [the ESA]. U.S.C. § 1540(g). A plaintiff can seek to enjoin both present activities that constitute and ongoing take and future activities that are reasonably likely to result in take. *See Burlington Northern Railroad,* 23 F.3d 1508 at 1511.

2. The Oceano Dunes State Vehicular Recreation Area

The Oceano Dunes State Vehicular Recreation Area ("SVRA") includes both state owned lands and county owned lands near the community of Oceano in San Luis Obispo County, California. The SVRA includes approximately 1,500 acres of sand dunes and 5.5 linear miles of beach areas open for use by motorized vehicles. This area is operated and managed by State Parks pursuant

to the SVRA's 1975 General Development Plan and Resource Management Plan ("Plan"), as amended in 1994. Under that plan, State Parks allows street-legal vehicles to operate on the beach in the northern portion of the SVRA, while the southern portion is open to off-highway vehicles ("OHVs") and vehicular camping. Oceano Dunes SVRA is open throughout the year. The Plan authorizes both general use of the SVRA and special OHV events. In addition to the general vehicle use permitted within the Oceano Dunes SVRA, in the past the State Parks has permitted a number of special OHV events. Unfortunately, the existing management plan is woefully outdated[1] and the State Parks' management of the area has repeatedly failed to adequately protect the many imperiled species and their habitats that are found on these public lands.

Although State Parks has adopted nesting season management plans that address some impacts to listed birds, including most recently the 2017 plan,[2] harm continues to occur. Oceano Dunes SVRA does not have any incidental take authorization for the endangered species found there – State Parks has no section 10 HCP or section 7 biological opinion[3] that would cover the snowy plover and California least tern, which continue to be harassed, harmed and even killed by activities at the SVRA.[4]

The Oceano Dunes SVRA also operates pursuant to a Coastal Development Permit ("CDP") issued by the California Coastal Commission ("Commission") which allows up to 1,000 registered camping vehicles (including an unlimited number of OHVs associated with registered campers) and 4,300 day use vehicles (of which 1,720 can be OHVs) per day and contains additional requirements during special events.

In January 2017, the Commission held a hearing to consider amendments to the CDP and the Commission's staff report showed that the limits in the existing permit have not been consistently adhered to by the State Parks in managing the SVRA. The 2017 Commission Staff

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[1] In 2017 a dust plan was adopted but other aspects of the plan have not been updated. Notably, in June 2017 the San Luis Obispo County Air Pollution Control District issued a Notice of Violation to State Parks for violations of air district rules (Attachment 1).

[2] 2017 Nesting Season Management Plan to Avoid Take of the California Least Tern and Western Snowy Plover at Oceano Dunes State Vehicular Recreation Area, San Luis Obispo County, California, February 2017 (Attachment 2).

[3] "On March 21, 2001 the California Department of Parks and Recreation (DPR), Oceano Dunes District State Vehicular Recreation Area's (ODSVRA, SVRA) incidental take authorization pursuant to Section 7 of the Endangered Species Act expired. The incidental take authorization with the U.S. Army Corps of Engineers (ACOE) was not renewed. The ACOE determined that the activity being conducted at the ODSVRA was no longer under ACOE jurisdiction. Therefore ODSVRA lost the federal nexus needed to renew the Section 7 permit." 2017 Nesting Season Management Plan.

[4] *See* Nesting of the California Least Tern and Western Snowy Plover at Oceano Dunes State Vehicular Recreation Area, San Luis Obispo County, California, 2016 Season, November 2016 (Attachment 3); USFWS letter dated Dec. 22, 2016, "Oceano Dunes State Vehicular Recreation Area, Second Notice of Additional Endangered Species Act Violations" pp.15 (Attachment 4, also available at https://documents.coastal.ca.gov/reports/2017/1/th14a-1-2017.pdf Coastal Commission Staff Report at pdf 171); USFWS letter dated March 29, 2016, "Oceano Dunes State Vehicular Recreation Area Endangered Species Act Violations and Habitat Conservation Plan" (Attachment 5, also available in Coastal Comm. Staff Report at pdf 177).

Report and letters submitted to the Commission also raised concerns with impacts to snowy plovers, California least terns and to steelhead habitat, discussed more fully below. After the hearing, the Commission continued consideration of amendments to the CDP until the September 2017 in Cambria, California. [5]

3. The Western Snowy Plover

The western snowy plover (*Charadrius alexandrinus nivosus*) is a small shorebird. The Pacific coast population of the snowy plover breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. Nesting generally occurs on flat open areas, such as sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Nests are generally shallow depressions in sand, with most nests in southern California located within 100 meters of water. Most snowy plovers return to the exact same location for nesting year after year. Breeding season in southern California begins in early or mid-March, with fledging extending through the third week in September. Snowy plovers winter on many of the same beaches used for breeding, generally congregating in loose flocks for roosting and foraging during winter.

The U.S. Fish and Wildlife Service (the "Service") listed the Pacific coast population of the snowy plover as a threatened species under the ESA in 1993. 58 Fed. Reg. 12864 (March 5, 1993). In listing the snowy plover, the Service determined that off-road vehicles pose a significant threat to snowy plovers, especially in nesting areas where motor vehicles can crush eggs or nestlings and/or flush adult plovers from nest sites resulting in nest abandonment and/or mortality to nestlings. *Id*. at 12871-12872. Nesting generally occurs in Southern California between March and September. Even during fall and winter, outside of the nesting season, snowy plover remain at risk from off-road vehicle use on beaches where they are foraging.

In 1999, the Service designated approximately 18,000 acres in Washington, Oregon, and California as critical habitat for the snowy plover, including beach portions of the Oceano Dunes SVRA. 64 Fed. Reg. 68508, 68517 (December 7, 1999). Following a lawsuit by development and OHV interests, the Service voluntarily remanded this critical habitat designation and issued a new final designation in 2005. 70 Fed. Reg. 56970 (September 29, 2005). The 2005 designation excluded the open riding area of the Oceano Dunes SVRA based on the Service's conclusion that it was not essential to the conservation of the snowy plover because it was subject to regular disturbance from both street legal vehicles and OHVs. *Id*. at 57004. In addition, the 2005 designation concluded that portions of the Oceano Dunes SVRA coastal strand outside the open riding area, were essential to the conservation of the snowy plover, but excluded these areas on economic grounds under section 4(b)(2) of the ESA. *Id*.[6] In 2012, the Service revised the critical habitat designation and, as most relevant here, expanded the areas covered in Unit 31 to

[5] The Center has urged the Commission to ensure through the CDP amendment process that the revised coastal development permit clearly prohibits and disapproves of any activities likely to result in future violations of the ESA. *See* Jan. 6, 2017 CBD letter to Commission (Attachment 6). Absent such amendments, the Commission may also be liable for that take to the extent the activities are permitted under the CDP.

[6] In 2006, the Service issued a proposed special rule for the snowy plover under section 4(d) of the ESA that would replace the blanket take prohibition of section 9. That special rule was never adopted.

include areas within the Oceano Dunes SVRA riding area. 77 Fed. Reg. 36728-36869 (June 19, 2012); *see id.* at 36733 (response to comments), 36850 (map).

Snowy plovers nest and breed within the Oceano Dunes SVRA between March and September. During this breeding season, nesting snowy plovers are protected to some extent from vehicles and other human interference by fenced exclosures. Snowy plovers also over-winter at Oceano Dunes SVRA and are thus present on the beach and in the SVRA *long after* the exclosures are removed. The exclosures were expanded pursuant to a 2003 settlement agreement between the State Parks and the Sierra Club. That same settlement agreement anticipated that State Parks would obtain take authorization for impacts to snowy plovers and other species through a valid Habitat Conservation Plan ("HCP") from the U.S. Fish and Wildlife Service. However, to date, 14 years later the State Parks has failed to do so.

Despite the State Parks' adoption and implementation of nesting season management plans, significant documented take of snowy plover associated with ORV activities has continued. Most recently, in 2016 several dead plovers were found in the riding area with signs of blunt trauma and in tire tracks. For example, in March 2016 one snowy plover was found dead in tire tracks and another was found crushed in the riding area, on October 10, 2016 a snowy plover was found dead in a vehicle track, on November 1, 2016 a snowy plover was found dead in a vehicle track, and 2 additional snowy plover were found dead in vehicle tracks later in November 2016.[7]

4. California Least Tern

The California Least Tern (*Sterna antillarum browni*) is listed as an endangered species under the Federal ESA and is also listed as an endangered species under the California Endangered Species Act ("CESA") and a fully protected species under California law. The California least tern nests in colonies on the Pacific coast of California and Baja, Mexico on relatively open beaches where vegetation is limited by the tidal scouring. California least tern could formerly be found in great abundance from Moss Landing, Monterey County, California to San Jose del Cabo, southern Baja California, Mexico. It was impacted in the 19th and early 20th century by the millinary trade which collected feathers for women's hats, but not to the degree that many east coast birds were. The Migratory Bird Treaty Act of 1916 ended the threat, but the least tern plummeted again some decades later due to growing development and recreational pressures which destroyed habitat, disturbed birds, and increased predation by introduced and native species. The construction of the Pacific Coast Highway brought all these threats to much of California's coast. By the 1940s, terns were gone from most beaches of Orange and Los Angeles counties and were considered sparse elsewhere. To avoid humans, some tern colonies nest at more inland mudflat and dredge fill sites, which appears to make them more susceptible to predation by foxes, raccoons, cats and dogs.

When placed on the endangered species list in 1970, just 225 nesting tern pairs were recorded in California. The U.S. Fish and Wildlife Service recovery plan was issued in 1980 and revised in 1985. The Service issued a Recovery Plan in 2001. Protection of nest beaches from development, degradation and disturbance, predator control, and recreation management initially

[7] 2016 ODSVRA Annual Report, Table G.4, at p. 140; USFWS letter dated Dec. 22, 2016 at 1.

resulted in increased populations of 1,200 pairs in 1988 with a high of 7,117 pairs in 2009. The species declined to 4,353 pairs in 2013. The breeding pairs at ODSVRA have shown a similar pattern with the highest numbers in 2008 and 2009 and some decline since that time.[8]

California Least tern generally nest between March and September, when they are most at risk from human disturbance during nesting season. Like plovers, terns are also harmed when made to flush from nesting and foraging activities by noise and disturbance associated with human activities including ORV use. While some human disturbance has been managed with fencing at nesting areas, it has not been entirely successful at Oceano SVRA. The design and management of the exclosures to protect California least terns at Oceano SVRA has not always been in accordance with best practices including those recommended by the California Department of Fish and Wildlife.[9] For example, in the past, mortalities have resulted from collisions with poorly designed fences on the exclosures.[10] The most recently documented non-predation mortalities in 2016 appear to have been from unknown causes.

5. South-Central California Steelhead

Arroyo Grande Creek within the Oceano Dunes SVRA in part of the designated critical habitat for threatened south-central California steelhead. When the creek is flowing across the beach seasonally in winter and spring, vehicles crossing the creek and driving in the creek-bed may adversely affect steelhead habitat.

In April 2008, State Parks adopted a plan to avoid take of South-Central California Coast Steelhead in San Luis Obispo Coastal Units of the State Park System. That document noted that motor vehicles crossing Arroyo Grande creek could potentially affect steelhead. State Parks also adopted motor vehicle restrictions regarding crossing Arroyo Grande Creek, stating:

> It is prohibited to cross Arroyo Grande Creek in any other manner than by crossing the creek as close to the ocean waterline as possible and parallel to the ocean waterline. Driving upstream or downstream in the creek channel or in any other manner in the creek channel is prohibited. If the creek crossing is posted "closed", crossing the creek is prohibited.[11]

Unfortunately, these restrictions appear to be often ignored and rather than only crossing the creek in the manner described, many ORVs have continued to drive in and through the creek more widely.[12]

---

[8] *See* 2016 ODSVRA Annual Report, at p. 17-18.
[9] *See* CDFW letters dated March 3, 2016 and July 3, 2015 (Attachment 7, Attachment 8).
[10] *See* CDFW letter dated March 3, 2016 re 2014 tern deaths.
[11] Department of Parks and Recreation, OHMVR Division, Oceano Dunes District, Oceano Dunes SVRA and Pismo State Beach, Order No. 554-005-2015, January 26, 2015, Motor Vehicle Operation (Attachment 9).
[12] When additional restrictions were posted in winter 2017, local observers noted that these signs were largely ignored.

On January 10, 2017, NOAA Fisheries suggested specific revisions to new draft creek-crossing guidelines to protect steelhead particularly when the water is over 1 foot deep at the crossing including surveying for smolts prior to crossings or closing the creek crossing during and after storm events for up to 48 hours or until the water has receded. To date, the Center can find no evidence that State Parks has adopted additional protective creek-crossing guidelines including the suggested revisions from NOAA Fisheries. As a result, potential impacts to South-Central California steelhead populations and its critical habitat are likely to be occurring, including through water quality degradation, changes in the creek bed and banks, and direct impacts to fish.

6. Violation of the ESA

The available information shows that activities authorized and permitted by State Parks have resulted in prohibited take of snowy plovers through direct killing, harming, and harassment. [13] This take is the direct and proximate consequence of the State Parks' management of the Oceano Dunes SVRA and specifically State Parks' authorization of motorized vehicle use within occupied snowy plover habitat. It is reasonably foreseeable that future activities permitted by the State Parks at the Oceano Dunes SVRA, including special events and general motorized vehicle use in snowy plover habitat, will result in additional prohibited take of snowy plovers. So long as the State Parks allows motorized vehicle use in areas occupied by snowy plovers without adequate protective measures, the State Parks is committing an ongoing take in violation of the ESA.

No exception or authorization exists that would allow the taking of snowy plovers.[14] Although Section 10 of the ESA provides for HCPs that, if approved by the Service, could authorize a certain level of take, State Parks does not have an HCP for snowy plovers at Oceano Dunes SVRA. State Parks has claimed that it has been developing an HCP for the Oceano Dunes SVRA pursuant to section 10 of the ESA for over two decades, but no such plan has been approved by the Service or even noticed for public review.

Activities authorized by the State Parks that are reasonably likely to result in prohibited take of snowy plovers may be enjoined under the ESA. *See United States v. Town of Plymouth,* 6 F.Supp.2d 81, 91 (D.Mass. 1998) (preliminary injunction issued against township which authorized off-road vehicles on a beach that was habitat for threatened piping plovers); *Defenders of Wildlife v. Administrator, Envtl. Protection Agency*, 688 F. Supp. 1334, 1356-1357 (D. Minn. Apr. 11, 1988) *aff'd* 882 F.2d 1294 (1989) (enjoining the EPA from continuing its registration of strychnine until it could do so without illegally taking protected species of wildlife).

Accordingly, State Parks has violated and continues to violate section 9 of the ESA. Pursuant to the citizen suit provision of the ESA, 16 U.S.C. sections 1540(g)(1)(A) and (2)(A), the Center is providing you with sixty days' notice of our intention to commence a civil action to challenge

[13] 2016 ODSVRA Annual Report, Table G.4, at p. 140; USFWS letter dated Dec. 22, 2016 at 1.
[14] As noted above, the Service has not finalized any section 4(d) special rule for the snowy plover, and it is doubtful that such a rule would authorize taking under these circumstances even if the 2006 proposed rule is eventually finalized.

the foregoing violations of law and any violations that may occur after service of this notice letter, and to seek their remediation in a court of law.

We are hopeful that State Parks will act to prevent take of snowy plovers that results from activities authorized by State Parks, and that representatives of State Parks will contact us prior to the commencement of legal action to discuss State Parks' obligations under the ESA. If you have any questions about the issues raised in this letter, please feel free to contact us at any time.

Sincerely,

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Attachments (*on disk with hard copy*):

Attachment 1: San Luis Obispo County Air Pollution Control District, Notice of Violation Number 2963, dated June 12, 2017

Attachment 2: 2017 Nesting Season Management Plan to Avoid Take of the California Least Tern and Western Snowy Plover at Oceano Dunes State Vehicular Recreation Area, San Luis Obispo County, California, February 2017

Attachment 3: Nesting of the California Least Tern and Western Snowy Plover at Oceano Dunes SVRA, San Luis Obispo County, California, 2016 Season, November 2016

Attachment 4: USFWS letter dated Dec. 22, 2016, "Oceano Dunes State Vehicular Recreation Area, Second Notice of Additional Endangered Species Act Violations"

Attachment 5: USFWS letter dated March 29, 2016, "Oceano Dunes State Vehicular Recreation Area Endangered Species Act Violations and Habitat Conservation Plan"

Attachment 6: Letter dated January 6, 2017 from Center for Biological Diversity to California Coastal Commission re: "Comments re Oceano Dunes SVRA CDP review: Th14a January12, 2017 Commission Agenda"

Attachment 7: Letter dated March 3, 2016 from CDFW "2016 Nesting Plan for California Least Tern at Oceano Dunes SVRA"

Attachment 8: Letter dated July 3, 2015 from CDFW "Management of California least Tern at Oceano Dunes SVRA"

Attachment 9: Department of Parks and Recreation, OHMVR Division, Oceano Dunes District, Oceano Dunes SVRA and Pismo State Beach, Order No. 554-005-2015, January 26, 2015, Motor Vehicle Operation

cc: (email only)

Jay Chamberlin, Chief Natural Resources Division, Cal. Department of Parks & Recreation, Jay.Chamberlin@parks.ca.gov
Christopher Conlin, Deputy Director, OHMVR Division, Cal. Department of Parks & Recreation, christopher.conlin@parks.ca.gov
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September 8, 2017

By email: Kevin.Kahn@coastal.ca.gov

Kevin Kahn
District Supervisor
Central Coast District Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

RE: **"Initial"** Comments of Friends of Oceano Dunes Re Commission Agenda Item 23b (September 14, 2017); Application No. 3-12-050 (California Department of Parks and Recreation ODSVRA Dust Control, Grover Beach & Oceano, San Luis Obispo Co.)

Dear Commissioners and staff:

These comments are filed on behalf of Friends of Oceano Dunes, Inc. ("Friends"), which is a California not-for-profit corporation, representing approximately 28,000 members and users of the Oceano Dunes State Vehicle Recreation Area ("SVRA") located near Pismo Beach, California.

Staff prepared a report filed 8/23/2017 for the CCC's February 14, 2017 hearing regarding dust control measures at the Oceano Dunes State Vehicular Recreation Area (ODSVRA). Oceano Dunes is being operated under CDP 4-82-300 as amended ("Staff Report").

We would like to address the following points:

a) Friends would like to offer an adaptive management process to meet the needs of all involved
b) Historical acreage lost and proposal from State Parks or the CCC is unacceptable
c) Staff report made recommendations to "restore" the dunes but provided no historical basis to support this claim.
d) Staff report made erroneous and unsubstantiated claims
e) Staff failed to include any diverse opinion or thought.

Friends of Oceano Dunes is a 501(c)(3) California Not-for-Profit Public Benefit Corporation, comprised of over 28,000 supporters. We represent environmentalists, equestrians, campers, fishermen, families and off-road enthusiasts who enjoy the benefits of Public Access through Responsible Recreation at the Oceano Dunes State Vehicular Recreation Area (ODSVRA). We want to maintain Access For All!

a) Friends would like to offer an adaptive management process to meet the needs of all involved

Friends believes that the entire acreage needs to be revisited to establish a new SVRA that balances the needs of all involved. This is exactly what the Public Resources Code desired:

> *5090.02. (a) The Legislature finds that off-highway motor vehicles are enjoying an ever-increasing popularity in California and that the indiscriminate and uncontrolled use of those vehicles may have a deleterious impact on the environment, wildlife habitats, native wildlife, and native flora.*
>
> *(b) The Legislature hereby declares that effectively managed areas and adequate facilities for the use of off-highway vehicles and conservation and enforcement* ***are essential for ecologically balanced recreation****.*
>
> *(c) Accordingly, it is the intent of the Legislature that:*
>
> *(1) Existing off-highway motor vehicle recreational areas, facilities, and* ***opportunities be expanded*** *and be managed in a manner consistent with this chapter, in particular to* ***maintain sustained long-term use****.*
>
> *(2) New off-highway motor vehicle recreational areas, facilities, and opportunities be provided and* ***managed pursuant to this chapter in a manner that will sustain long-term use****.*

Per the staff report;

> "*ODSVRA encompasses 3,590 acres and includes approximately six linear miles of sandy beach. Approximately 1,500 acres of ODSVRA (or almost two square miles) and three miles of beach are currently available for off-highway vehicle (OHV) use, and street-legal vehicle use can range essentially along the entire six-mile stretch.*"

However what the staff report failed to make clear is that the acreage cited does not take into account for recent closures and for the additional 300 acres closed from March through September for Snowy Plovers. This will be covered in section b of this document.

What Friends recommends is:

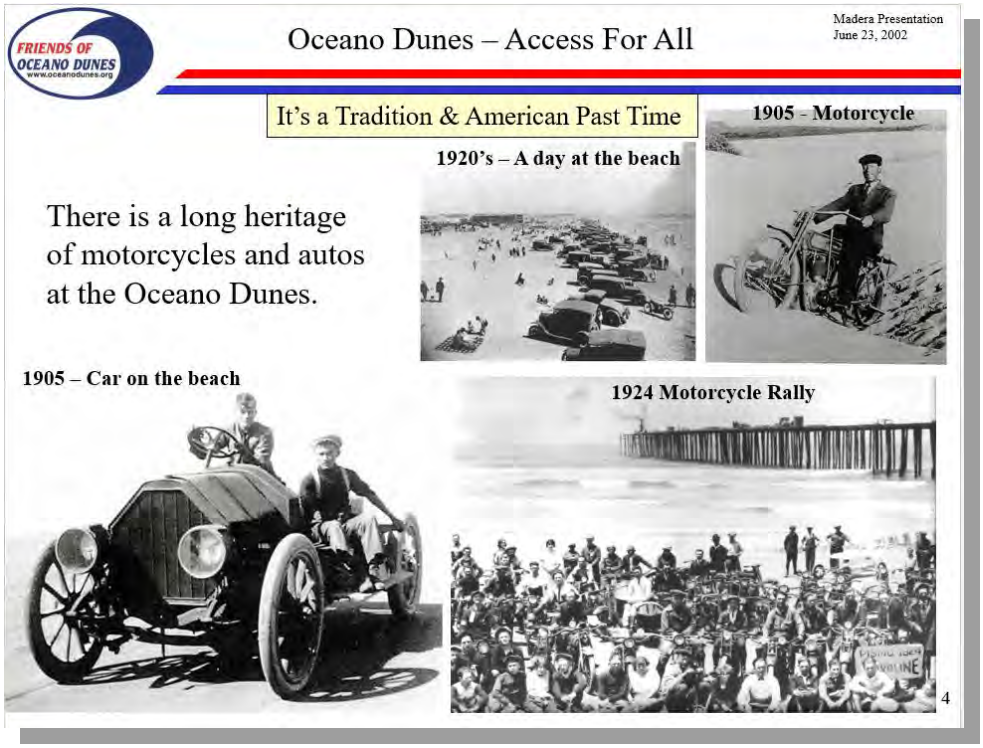
- The park acreage meet the intent of the Public Resources Code and the acreage be divided in half to support balanced recreation. 3590 acres divided by 2 = 1795 acres for OHV and camping and 1795 acres for species protection, dust mitigation and other adaptive management needs.
- Establish a no net loss philosophy to ensure continued use and protective measures. If acreage is needed for dust mitigation or species protection,

then a 1:1 replacement occurs where acreage is opened to offset the need to close other acreage.

- Provide State Parks the ability to apply adaptive management practices which meet the needs of all involved by managing the balanced acreage use with a no-net-loss philosophy. State Parks is the land manager who needs the flexibility to manage the park in the most effective manner.

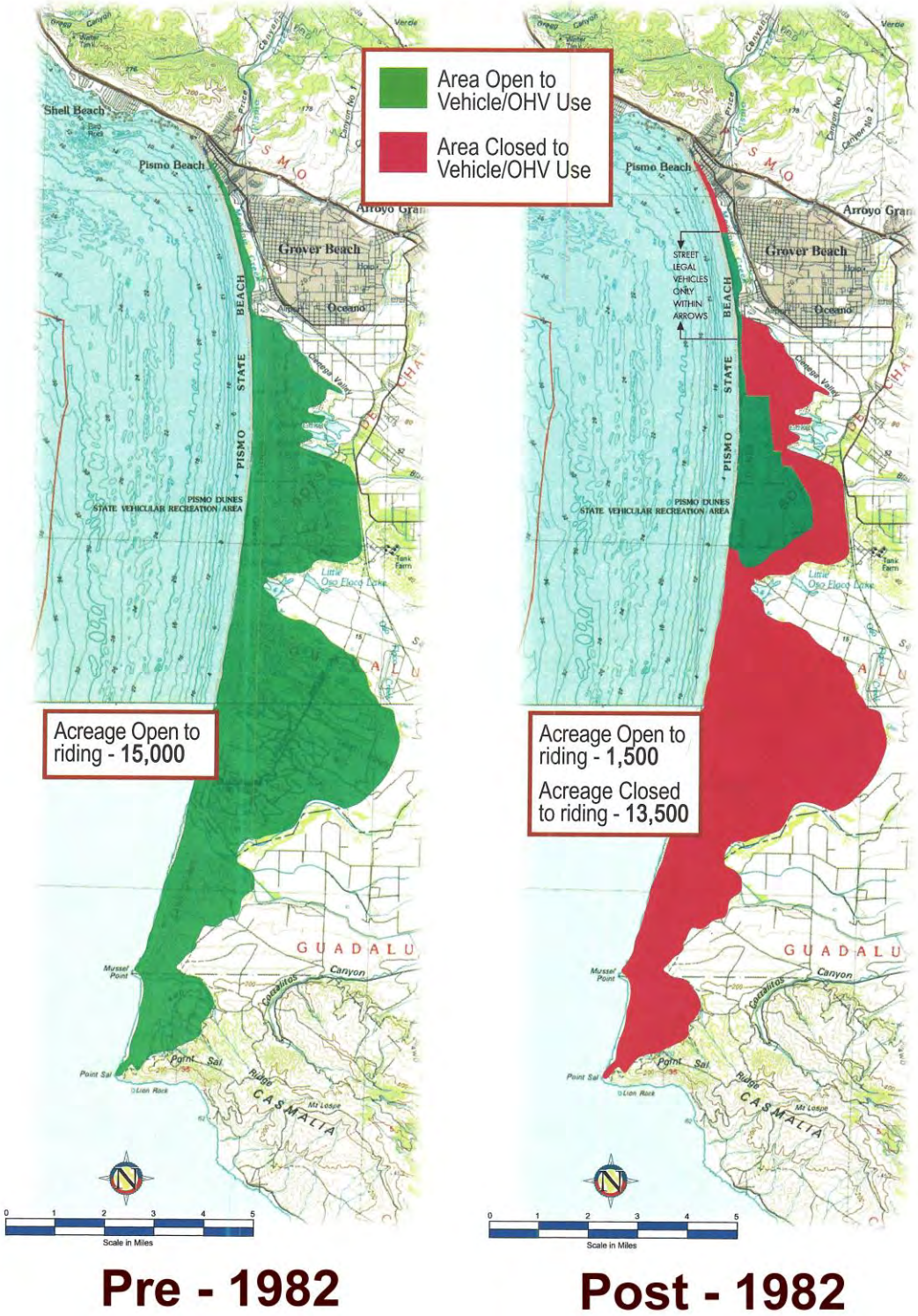
b) Historical acreage lost and proposal from State Parks or the CCC is unacceptable

The ODSVRA has been used for camping and off-road recreation for over 100 years.



There is a long history of enjoying the entire Guadalupe Dune Complex, which includes the Oceano Dunes SVRA. In 1982 a significant portion of the dunes were closed.

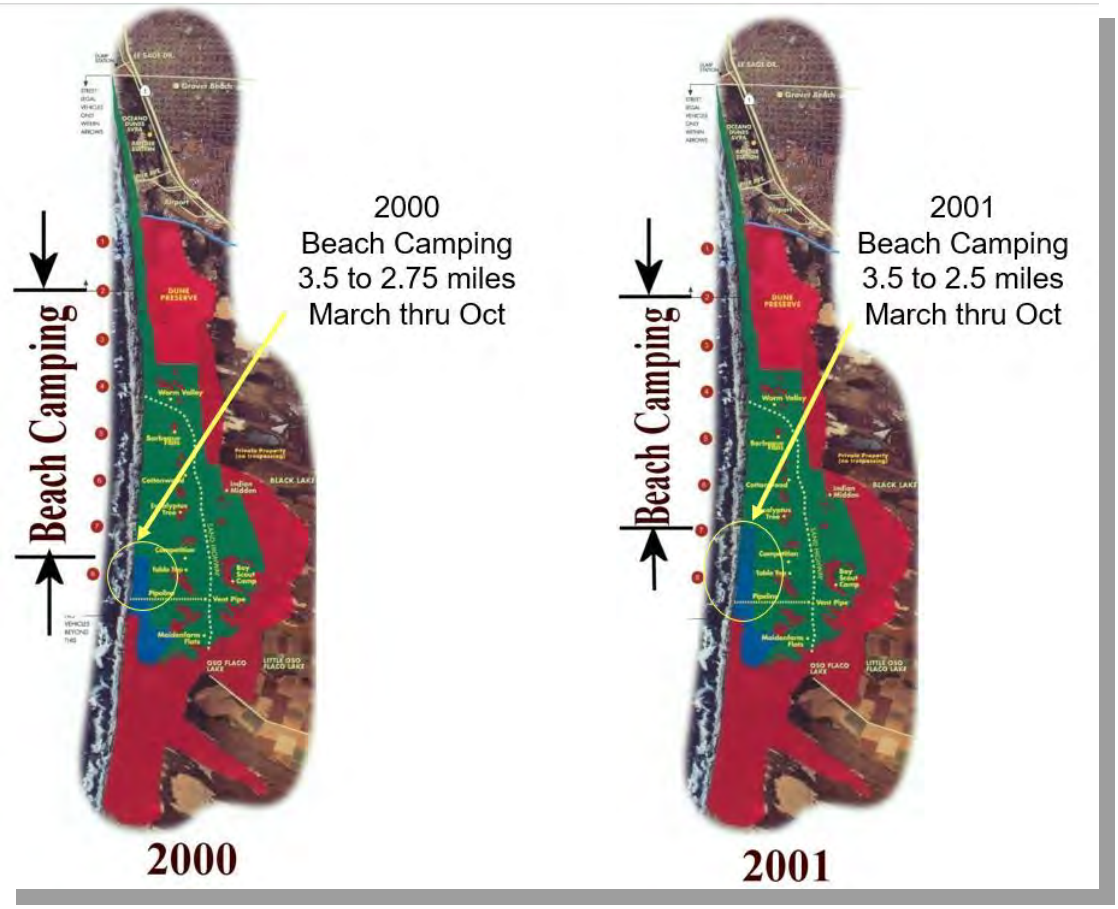
Oceano Dunes



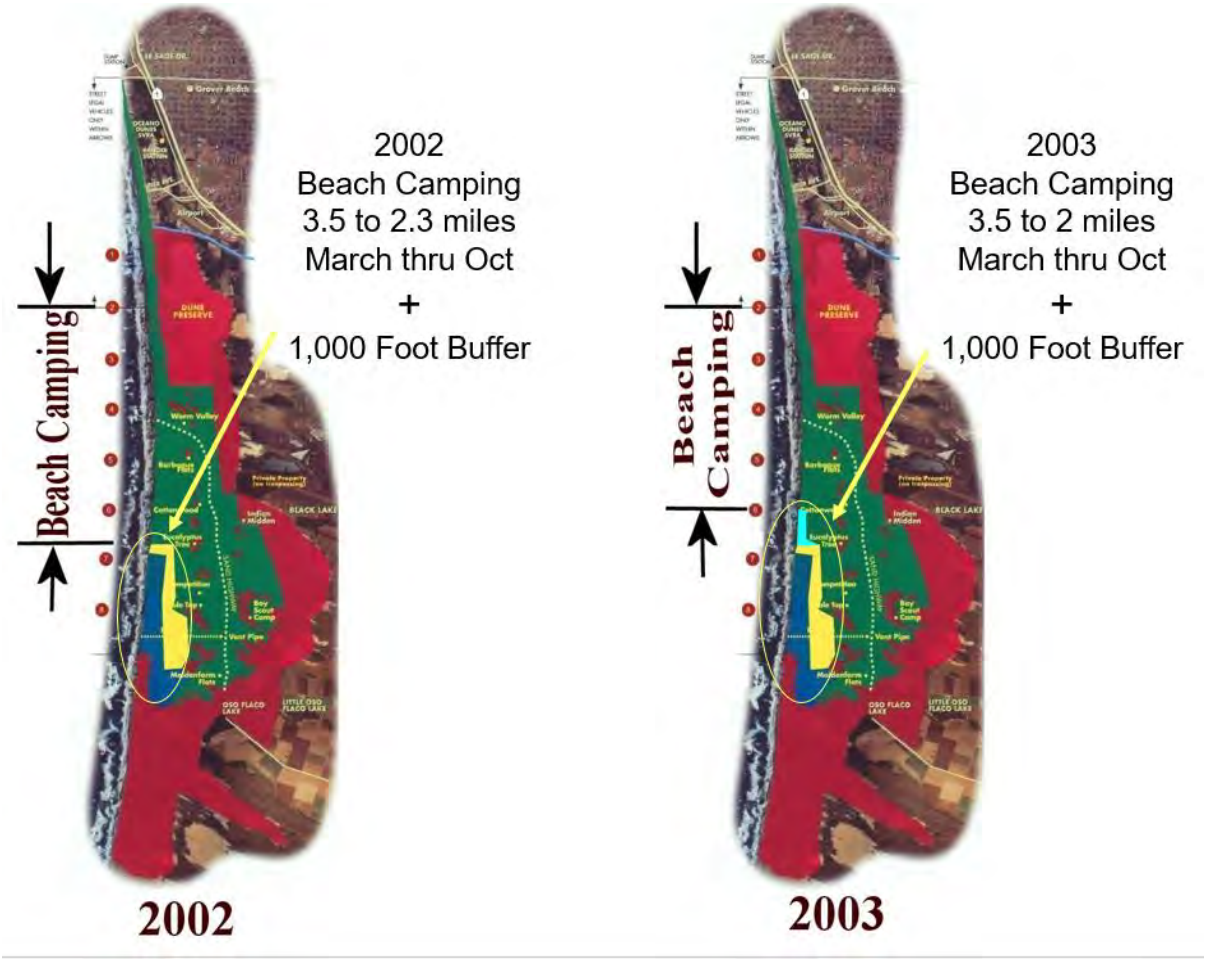
28,000 supporters. We represent businesses, environmentalists, equestrians, campers, fishermen, families and off-road enthusiasts who enjoy the benefits of Public Access through Responsible Recreation at the Oceano Dunes State Vehicular Recreation Area (ODSVRA). We want to maintain Access For All!

Over time, there have been many actions taken which have continued to reduce the area for camping and recreation.

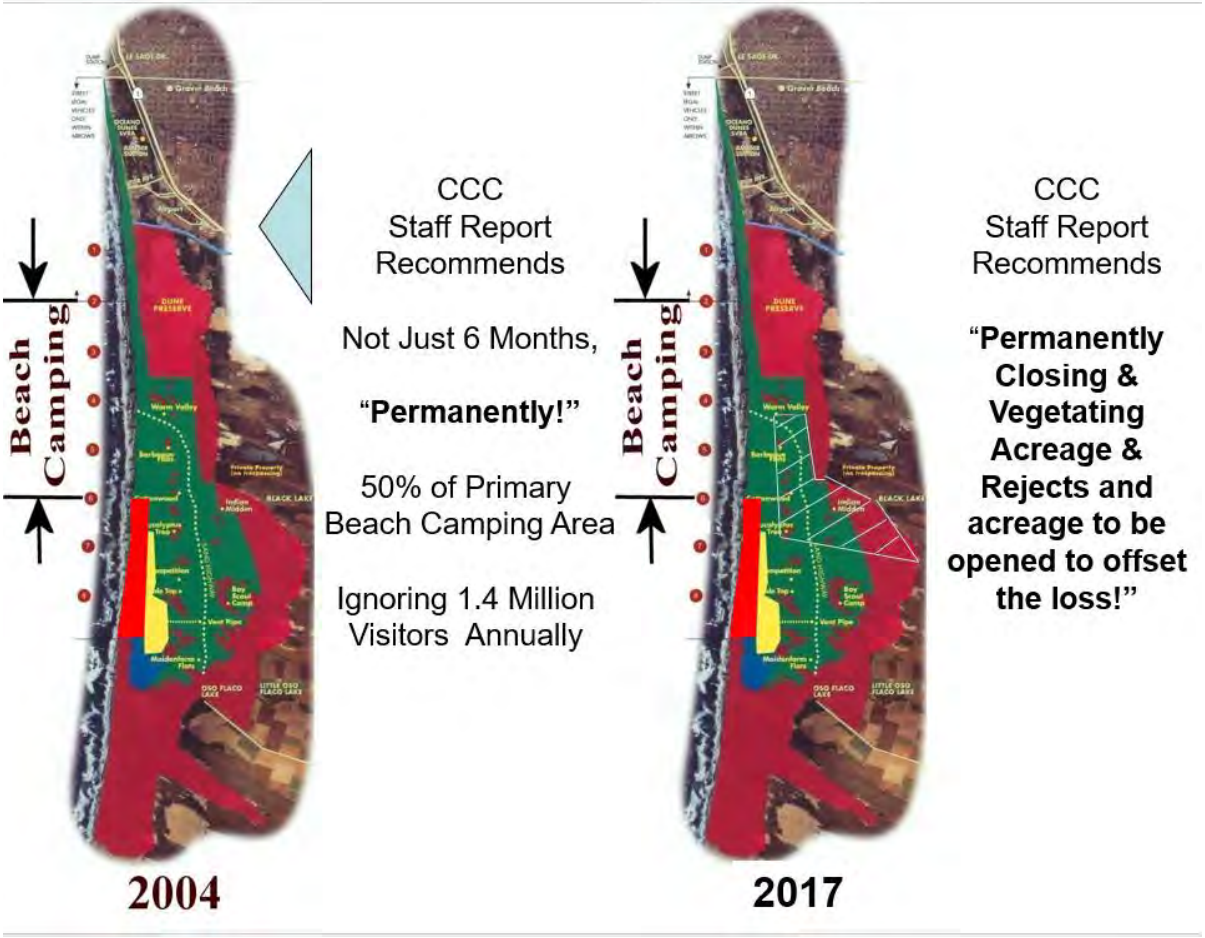
2000 – acreage for beach camping reduced
2001 – acreage for beach camping reduced



2002 – acreage for beach camping further reduced & acreage for 1000 foot seasonal buffer taken
2003 – acreage for beach camping further reduced and exclosure moved to Pole 6.



2004 – CCC Staff recommended permanent closure of Snowy Plover nesting area
2017 – CCC Staff recommends permanently closing and vegetating acreage with further reduces the park



Further reductions in the parks acreage adds congestion and increases the risk of injury of the visitors.

Significant economic impact may occur if beach access is reduced to protect the safety of the visitors.

c) Staff report made recommendations to "restore" the dunes but provided no historical basis to support this claim.

The staff report refers to restoring the dunes in numerous locations:

"*With respect to the Program's consistency with other Coastal Act requirements, the project (including as modified to meet applicable APCD requirements as required by the Coastal Act) at its core is a comprehensive Program that seeks to stabilize dune structure, and protect and* ***restore dune surface properties*** *so as to help reduce emissions, including within more emissive/disturbed areas currently used for OHV riding activity*."

"*In this case, it is appropriate to implement measures that have the effect of limiting the 'time, place, and manner' of OHV use associated with the fragile dunes in question to stabilize their structure,* ***restore their surface properties****, and address applicable air quality requirements*"

The problem with staffs recommendation, is they never define the surface properties that are normal or natural.

Many see vegetated dunes and think it is natural, but as we will show you they are not.

In order to understand and appreciate the current landscape, one must also review the landscape from years gone by. For this reason, we have put together the following document to aid in discussion.

The Oceano Dunes and surrounding area has been a great place for tourists and recreation for approximately one hundred years. Due to this popularity, there have been many photographs taken and stories written to remind us of this history.

For example, let's first look at the area now known as Pier Avenue. Many years ago this was just a solitary road leading out to a hotel, which looked out over the beautiful coast.

The following is a photo of a photo, which hangs on the wall inside the Guiton Realty office in Oceano. The Guiton family has lived in Oceano for many generations and they have provided a plethora of old photographs and information.

The hotel sits where Pier Avenue currently meets the beach. Please note the barren sand north of the hotel.

The following aerial photo was taken in 1956.

If one looks closely at the photo to the left, one will clearly see the Oceano Airport and Pier Avenue. Looking north, one will see that the area is virtually void of foredunes and vegetation. Please remember, when this photo was taken in 1956, most vehicles were forced to stay on the hard wet-packed sand because of their skinny, hard tires, which did not perform well in the sand. Therefore, one cannot assume that the lack of vegetation is due to vehicles, because the previous picture also helps show this area as being void of vegetation.

The following photograph shows the old wooden ramp at the end of Pier Avenue and the lack of vegetation to the north of Pier Avenue. However, the foredunes are starting to develop with the help of the locals trying to prevent sand movement.

Today (see below, picture taken 9/5/02), one sees massive amounts of vegetation. Is this natural? Locals remember people planting and watering this area to develop these plants for dune stabilization.

When looking at these pictures, one must ask, “How were these dunes formed and what was the sequence of events to get them where they are today.” The Dune Center offers an excellent video on the formation of the entire Nipomo Dunes complex. This video depicts sand moving down the Santa Maria River and into the ocean over many thousands of years. The sand is then washed up onto the shore, dried, and then blown inland forming the dunes. Thousands of years of this activity have created these dunes.

Now one must ask which came first, the sand or the vegetation? This question is similar to the chicken and the egg. The old photos and written word give a better understanding of what “natural” is.


SUNSET ADVERTISING SECTION

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The Pavilion Hill area is one of the best-known locations within the dunes. It was this location that locals brought wood and nails down with horse and wagon to build the large two-story Pavilion in the early 1900’s. In addition, plots of land could be purchased in the El Pizmo Beach Resort. Some people still own plots in this area from the old El Pizmo Beach Resort..

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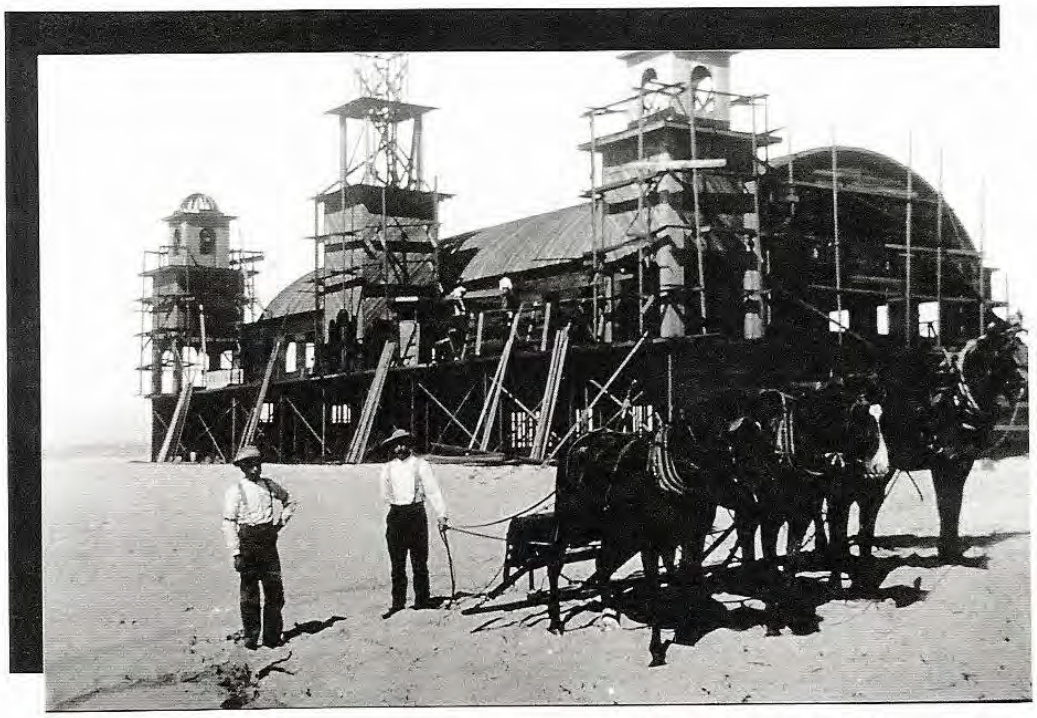

Dance pavillion under construction at Pavillion Hill *(circa 1900).*

Dune stabilization — vegetation planting in front of Pavillion Hill *(circa 1900).*

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"La Grande Beach Pavillion" on what is now called Pavillion Hill *(circa 1900).*

"Fishing at La Grande" on pier in front of Pavillion Hill *(circa 1905).*

Note lack of vegetation in front of the Pavilion in this photo.

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Pier, wagon and plantings in front of Pavillion Hill *(circa 1900).*

Horse and buggy tourist activity in front of Pavillion Hill *(circa 1905).*

Note the vegetation added to stabilize the dunes.

The book, “The Duneites”, was written by Norm Hammond and was published by the South County Historical Society in 1992. “The Duneites” gives considerable history for the dunes and surrounding area, while focusing on some early inhabitants of the dunes. It is a great book and worthwhile for all to read.

Page 12 of the Duneites reads: “Work began on a grand pavilion at La Grande; the new pavilion would be larger and more expensive than the one at Oceano. It would stand in the heart of La Grande Estates, on the highest dune in the five-mile stretch of sand between Oceano and Oso Flaco Lake. The pavilion would face the ocean, just a few hundred yards from crashing surf. “

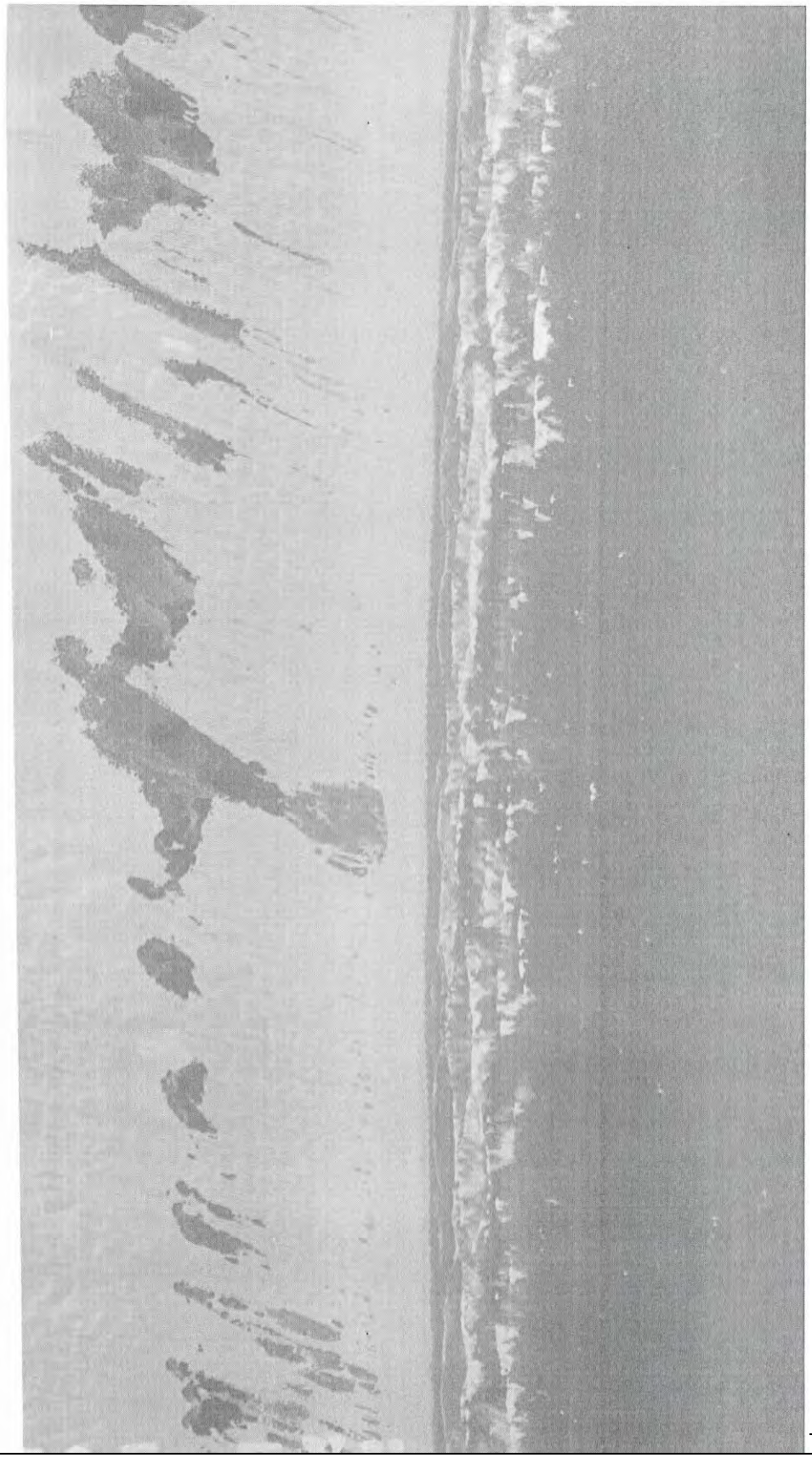
Page 13 of the Duneites reads: “Succulent ice plant and European dune grass were planted in the huge dune at La Grande to stabilize the moving sand and prevent wind from cutting the foundations”

Page 13 of the Duneites reads: “The grand opening was scheduled for July 4, 1907. Local papers carried advertisements promoting a free barbecue, clambake, horse racing and dancing all day.”

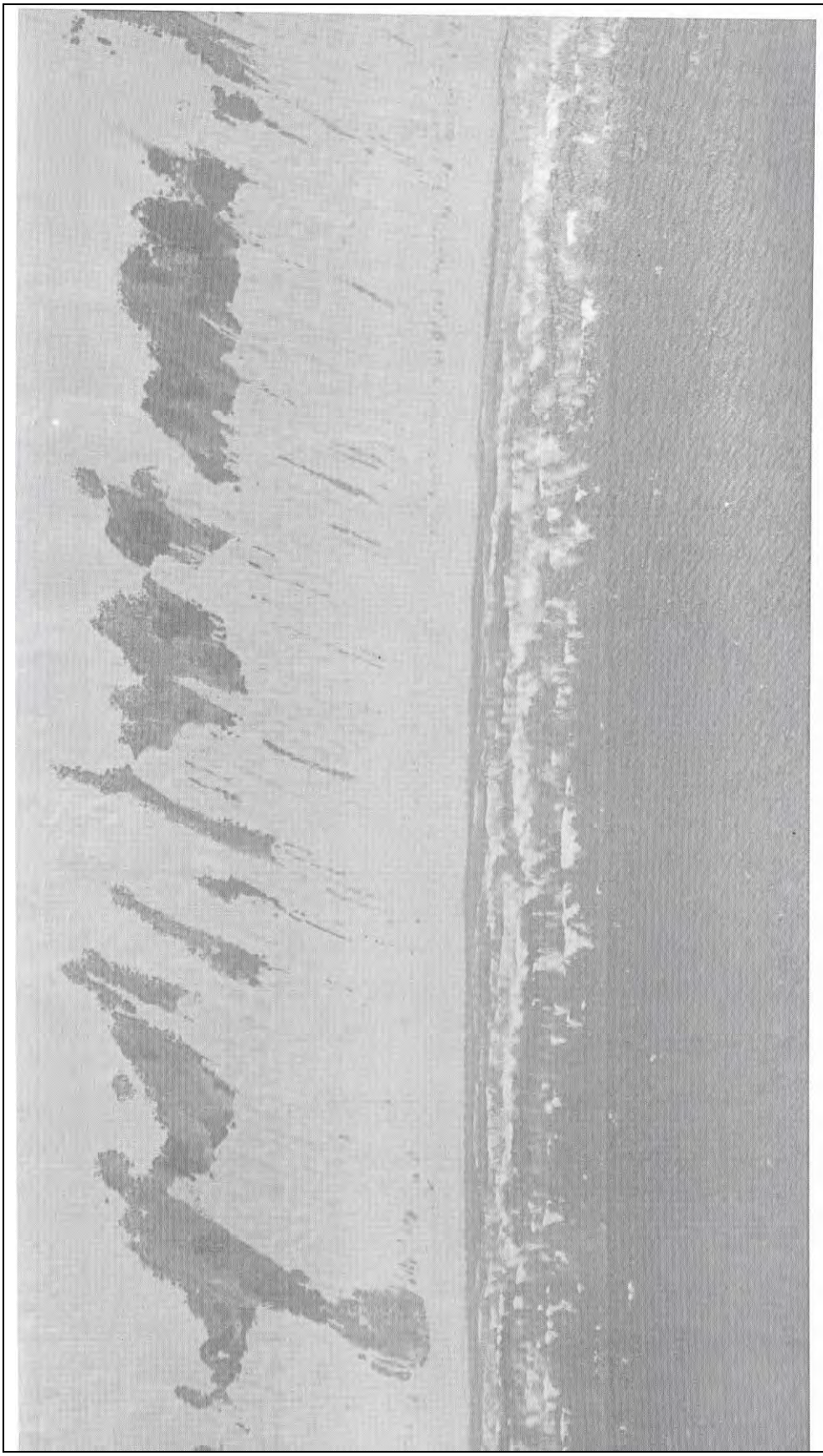
Page 13 of the Duneites reads: “By 1915, the La Grande Pavilion and its pier stood deserted and in ruins.”

Page 14 of the Duneites reads: “The sea wind cut through the dune grass and iceplant. It cut a small notch next to the redwood foundation of the pavilion and slowly widened until a man on horseback could ride beneath its northwest corner. The foundation weakened, and the northwest tower of the pavilion began leaning over into the wind. It creaked and swayed for months, until the final grain of sand had been whisked away, letting the ornate tower collapse sadly in the night.”

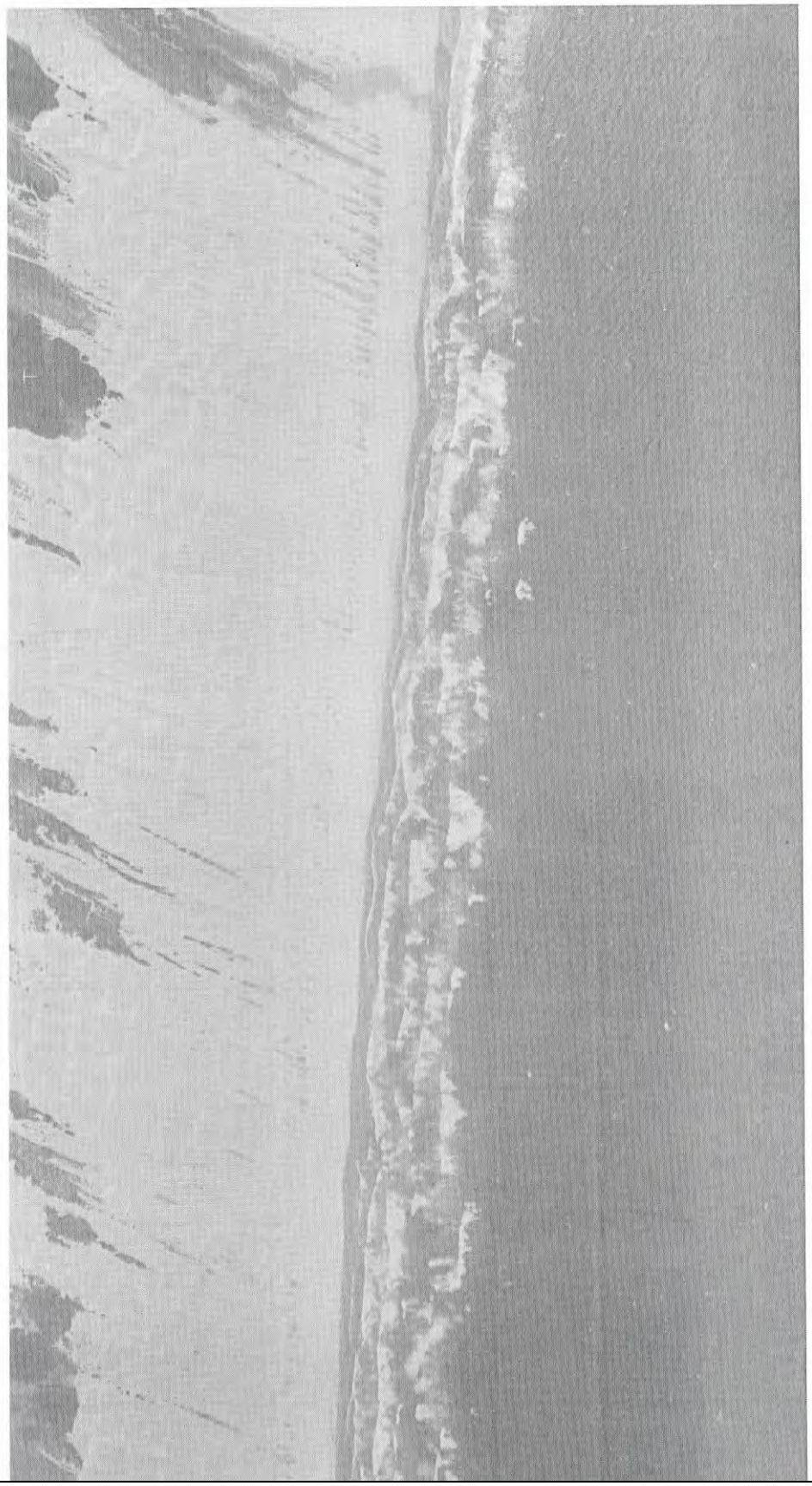
As one moves south along the coast and looks at some of the older pictures, one can see the beach has always had areas of barren sand.



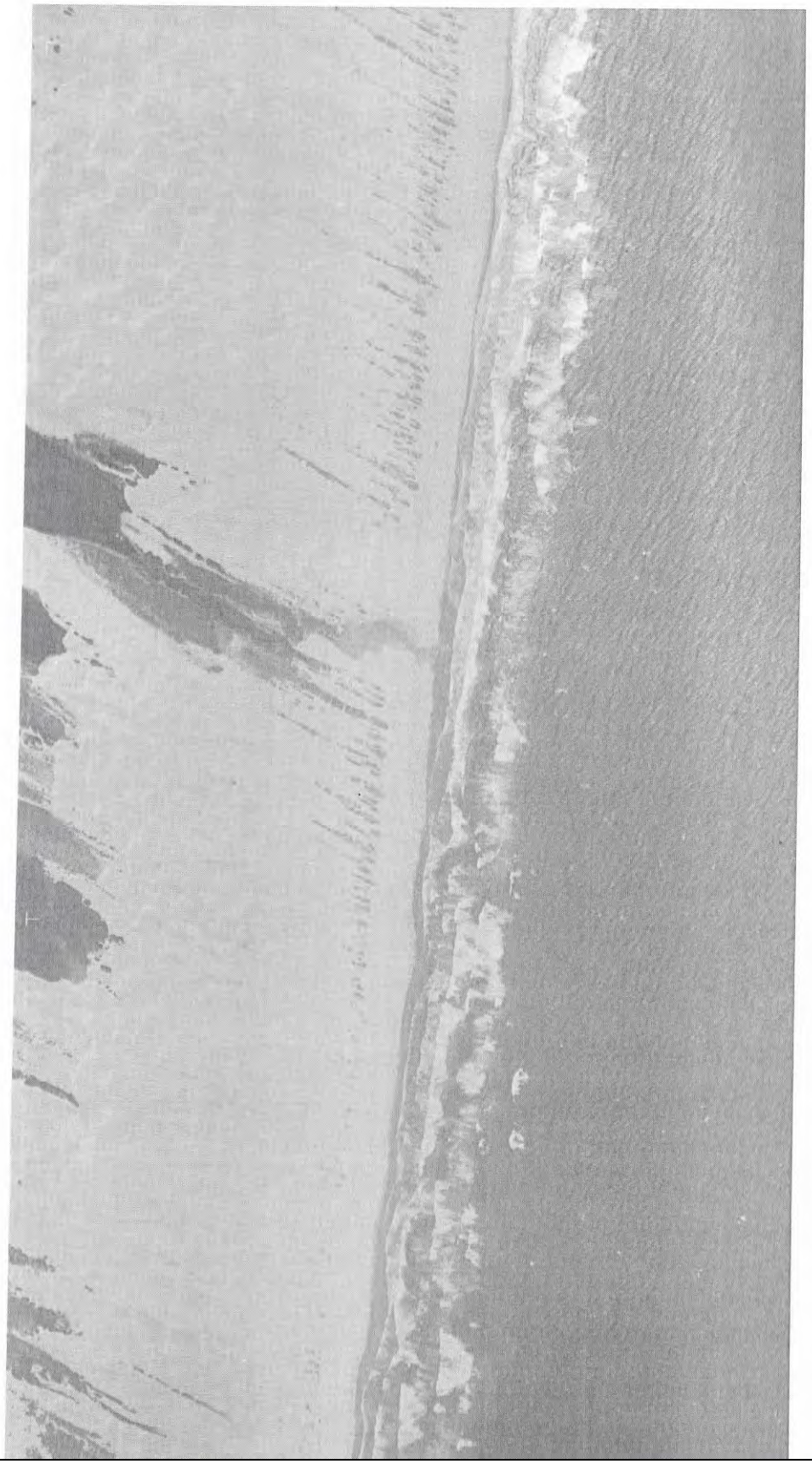
The vegetation island that protrudes out towards the water (near the center of the photo) is referred to as Pavilion Hill. Pavilion Hill is where a dance hall was built in the early 1900's. The builders of the Pavilion, trying to stabilize the dune, planted the large amount of vegetation. Note the lack of foredunes up and down the coast.



Moving further south. Pavilion Hill is at the bottom of this photo (north).



At the top of this photo is Oso Flaco Creek.



In the middle of this photo, one can see Oso Flaco Creek. Note the lack of vegetation in the dunes above the creek (south).

This photo was taken September 5, 2002. This is Oso Flaco Creek…note the beginning of massive amounts of vegetation smothering the dunes.

Oso Flaco Creek on the left looking south.

South of the Oso Flaco Creek.

d) Staff report made erroneous and unsubstantiated claims

Staff has a pattern of making claims with no proof, and in the absence of any proof or data to substantiate it the reader can be misled. Here is a subset of Staffs errors.

Pg 4: "*In addition, while the Program **may result in limiting some areas** currently open to OHV and camping recreational uses, **significant public recreational access representing several thousand acres will still be available at ODSVRA**, including some two square miles of dune and some three linear miles of beach available for OHV riding. Thus, for all these reasons**, the project will not result in significant adverse impacts to public access** and is consistent with these other Coastal Act policies.* "
Friends Response: Unfortunately staffs claim is wrong. The taking of this land and permanently planting vegetation SHALL limit access and use (not may limit). Staff claims "several thousand acres will still be available" but they mislead the reader since these acres are off-limits to camping and OHV…which is why the park was established in the first place. Staff is disingenuous at best. Staff further claims this will "not result in significant impacts to the public access" but staff failed to ask the public that uses this park if they agree.

Pg 5: "*Commission staff has worked extensively and cooperatively with DPR, APCD, CARB, and many interested members of the public over many years to address air quality in a manner that responds to the various needs, goals, and interests of the many parties involved."*
Friends Response: Unfortunately staff failed to work with or have any discussions with the other members of the TRT or the only organization who represents the users of the Oceano Dunes…Friends of Oceano Dunes! Again, Staff is being disingenuous at best.

Pg 5: "*As conditioned, the dust control Program is consistent with the Coastal Act*"
Friends Response: Under the Coastal Act, the Commission has no authority to change a project description or to expand the scope of activities or development under a CDP application, at least without the applicant's consent. The Commission, as a state agency, has only those powers specified in the Coastal Act, and the Coastal Act includes no such authority.

Pg 14: "*This amendment adjusted the fence lines to allow for OHV use in areas which were historically unvegetated open sand, or **which had become so damaged by past vehicular use** that revegetation success was deemed unlikely at that time."*
Friends Response: Unfortunately this is not proven and not part of the original record and therefore should be stricken.

e) Staff failed to include any diverse opinion or thought.

Staff had plenty of opportunity to reach out and have discussions with member of the TRT, but failed to do so.

Friends of Oceano Dunes represents the largest percentage of the users of the Oceano Dunes and its president has been part of the TRT for 16 years…however staff failed to have any discussions with Friends.

Staff established an email account for people of the Nipomo Mesa to submit letters, but failed to offer the same courtesy for the users of the park.

It is fair to say that Staff's blatant bias against the users of the Oceano Dunes is apparent and needs to be addressed by the CCC.

Sincerely,

Jim Suty
President – Friends of Oceano Dunes

CC: Tom Roth
FoOD BOD

From:	Michael Young
To:	Turnbull-Sanders, Effie@Coastal; Brownsey, Donne@Coastal; Vargas, Mark@Coastal; Sundberg, Ryan@Coastal; Peskin, Aaron@Coastal; Howell, Erik@Coastal; Uranga, Roberto@Coastal; Padilla, Stephen@Coastal; Faustinos, Belinda@Coastal; Orr, Trent@Coastal; Garcia-Erceg, Nidia@Coastal; Ward, Christopher@Coastal; Kahn, Kevin@Coastal
Subject:	CCC Meeting, Sep 14...agenda item Th23b
Date:	Thursday, September 07, 2017 9:54:02 AM
Attachments:	CA_CC_Sep14.rtf

Permit Number 3-12-050

Michael S. Young
Resident of Nipomo

I strongly OPPOSE the Permit

Members of the California Coastal Commission:

Pneumonoultramicroscopicsilicovolcanoconiosis…

…is the longest word in the Oxford English Dictionary and refers to a lung disease, silicosis, caused by fine crystalline silica dust produced in some occupational settings like mining and sandblasting, and, in our local situation, by a specific recreational activity at the Oceano Dunes State Vehicular Recreation Area.

Unfortunately, there is no polite word, long or short, that can describe the unwillingness of our elected or appointed representatives to take effective, immediate action to protect the health, safety, welfare, and property of those living and working within the toxic dust plume that emanates from the ODSVRA when vehicles are allowed to speed over precious natural resources and to destroy habitat that would otherwise reduce airborne dust to negligible amounts.

Those most adversely affected by the dust plume are young children, the elderly, and asthmatics and allergy sufferers of any age, all of whom have reduced lung capacity.

The standards for what constitutes a dangerous level of exposure to crystalline silica have evolved as the science has shed more light on the subject. For example, prior to 2013, OSHA allowed particulate exposure up to 100 micrograms per cubic meter of air. New regulations reduce the amount to 50 micrograms per cubic meter in the workplace, which now also applies to the construction industry. California standards focus on indoor air quality and address episodic complaints, but harm from PM10 and PM2.5 particulate exposure are cumulative and may happen indoors or outdoors.

These rules apply to all workplaces, so we must presume that local businesses within the plume are now subject to lawsuits and compensation for harm. State Parks employees as well as workers at Phillips 66, CalFire, and numerous small businesses are doubtlessly harmed.

How about the agricultural workers in the strawberry fields downwind and nearby? How about the young children and teachers at the Oceano Elementary School, the Fairgrove Elementary School, the Mesa Middle School, or the Mesa View Community School? What about the numerous contractors that residents of the Nipomo Mesa employ to maintain their homes?

Can State, County, and local Agencies be named as defendants in those suits for their inaction with regard to the public health, safety, and welfare? No doubt, they can and will be.

Yes, these lawsuits may drag on in the courts until the plaintiffs move away or run out of money or die. But, there are reasonable solutions that this Commission could impose immediately…after rejecting the shameful, ineffectual plan that the California Department of Parks and Recreation has put before you.

The solutions would include a prohibition of off-road vehicular use on the most sensitive areas of the Oceano Dunes and immediate, complete revegetation of the most emissive areas of Dunes to return them to their natural state.

We know that revegetation works because we have evidence that airborne particulate levels at the Oso Flaco air monitoring station on vegetated areas of the Oceano Dunes are effectively at ambient levels while simultaneous recordings at CDF and Mesa 2 monitoring stations record PM10 concentrations 10 or more times greater even after adjusting for wind speed.

We also know from on-site inspection and computer modeling that some portions of the Dunes, principally in the La Grande Tract account for the vast majority of the particulate emissions. That's where the mediation and repair efforts should be concentrated.

Please, end the harm being done to the health, safety, and welfare of all residents, young and old, of the Nipomo Mesa and of all who would come to our beautiful coastal area. We are counting on this Commission to protect us and our environment from harm and abuse that can, with reasonable understanding and effort, be eliminated.

Thank you.

Michael C. Normoyle
965 Jason Court
Nipomo, CA 93444

September 6, 2017

By Email and First-Class Mail
Kevin.Kahn@coastal.ca.gov

Mr. Kevin Kahn
District Supervisor
Central Coast District Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

Re: **Comments on OHMVR Coastal Development Permit Application #03-12-50 and Proposed 5-Year Plan for Dust Mitigation (July 2, 2017 Updated Dust Control Program Description)**

Dear Mr. Khan (and Commissioners):

I am a resident of the Nipomo Mesa and I submit this comment letter in connection with the California Coastal Commission's (CCC's) upcoming consideration of OHMVR's Coastal Development Permit Application #03-12-50. I understand that my comments need to be submitted by September 7th for them to be shared with Commissioners ahead of the hearing. I also ask that a copy of my letter be incorporated into the official record of the proceedings.

I am especially concerned about what appears to be a fundamental, foundational "legal condition" that, although the subject of past "mention" has not been thoroughly and appropriately vetted to date, either in OHMVR's CDP application or in the CEQA EIR documents purportedly supporting the application. Giving unsubstantiated and superficial lip service to a profoundly impactful issue should not be accepted by the CCC.

I have reviewed the document dated July 21, 2017 titled "Oceano Dunes State Vehicular Recreation Area Updated Dust Control Program Description (Coastal Development Permit (CDP) #03-12-50)." The document states on page 1 that the updated project description "fully replaces the description of activities the OHMVR Division provided to the CCC in November 2012."

Within the Updated Dust Control Program Description itself, I note the following language at page 4 (**copy of page attached - #1**):

> The Program area includes most of the open sand areas In the central to northern portion of the Oceano Dunes SVRA open riding and camping area, commonly referred to as the 'La Grande Tract.' SLOAPCD and OHMVR Division studies have identified this area as the area most likely influencing air quality measurements at the CDF station and air quality conditions on the Nipomo Mesa (see Draft Program EIR Section 1.1.2).

What this key language says, bottom line, is that the "La Grande Tract" is a vitally important part of the proposed Program area, is an area where adverse air quality conditions are present and highly problematic, and is an area where timely and successful implementation of Dust Rule mitigation measures by OHMVR is critical.

Significantly, while this program description language in the 2017 Updated Dust Control Program Description is similar to language in the August 2016 Draft EIR, *it is noticeably different from changed language added to the March 2017 Final EIR (underlined in the Final EIR at Page 3-5)*(***copy of page attached - #2***):

> The Program area includes most of the open sand areas In the central to northern portion of the Oceano Dunes SVRA open riding and camping area, commonly referred

> to as the 'La Grande Tract.' **This part of Oceano Dunes SVRA is owned primarily by the County; however, the OHMVR Division has entered into an operating agreement with the County to operate this land.** SLOAPCD and OHMVR Division studies have identified this area as the area most likely influencing air quality measurements at the CDF station and air quality conditions on the Nipomo Mesa (see Draft Program EIR Section 1.1.2).

This "existing operating agreement" language, added to the Final EIR, but **conspicuously absent** from the current Updated Dust Control Program Description, was consistent with the manner in which the Final EIR dealt with and responded to multiple public comments (written and oral) raising questions about the source of authority for OHMVR to be occupying, managing and operating land (the La Grande Tract) owned by San Luis Obispo County.

Time and time again, the preparers of the Final EIR provided the same essential response: OMMVR is party to an existing operating agreement that provides the OHMVR Division with authority to implement the Dust Control Program. One of many such examples[1] is found at Page 4-199 of the Final EIR (**copy of page attached - #3**), where the preparers of the Final EIR respond to Comment #1 made by public commenter Michael Young:

> **Comment R1:** Mr. Young asks where the OHMVR Division's authority to implement the proposed Dust Control Program on the La Grande Tract is derived from.
>
> *Response to Comment R1:* As explained in the response to Comment K23 (see Section 4.11 of this Final Program EIR), the OHMVR Division operates the part of the SVRA within the County's La Grande Tract under an existing operating agreement that provides the OHMVR Division with the authority to implement the proposed Dust Control Program.

[1] Other examples of similar responses can be found at pages 4-209 and 4-240 of the Final EIR.

In giving a similar "existing operating agreement" response to "Oral Comment 2" received on August 23, 2016 (see page 4-249 of the Final EIR) (**copy of page attached - #4**), the preparers refer to another response (i.e. a response to Comment K-130 submitted on behalf of Friends of Oceano Dunes) (**copy of page attached - #5**):

> **Comment K-130:** Friends of Oceano Dunes requests the OHMVR provide a copy of the document that, pursuant to PRC Section 30601.5, provides the OHMVR Division with a legal right, interest or other entitlement to the La Grande Tract.
>
> *Response to Comment K130:* As explained in the response to Comment K23 above, the OHMVR Division operates the part of the SVRA within the County's La Grande Tract under an existing operating agreement. This operating agreement provides the OHMVR Division with authority to implement the Dust Control Program.

Here the same response is provided referencing an "existing operating agreement" but the requested copy is not produced!

So just where is the "existing operating agreement that provides the OHMVR Division with authority to implement the Dust Control Program"? [2]

What appears to be missing, even at this relatively late stage, is any credible and documented showing that OHMVR currently (and actually) has any lawful authority to possess, occupy, operate, administer or manage the La Grande Tract property. To emphasize while also stating what is undisputed: this is property OWNED by San Luis Obispo County; it is not owned by OHMVR, or by the California Department of Parks and Recreation, or by CARB, or by the State of California or any of its other departments or agencies, or by the Coastal Commission, or by the SLO APCD.

[2] In addition to repeated references in the EIR documents to a never produced "existing operating agreement authorizing OHMVR to implement a Dust Control Program," the EIR documents variously reference "state-operated" lands but nowhere is an actual authorizing document referenced or produced.

To my best understanding, no valid, legally binding written agreement or written grant of permission or authority currently exists between SLO County and OHMVR regarding the La Grande Tract. While there was a valid written operating agreement in place (a 1983 Operating Agreement), that written agreement expired, or was set to expire, in 2008. Documents are believed to exist relating to a possible short extension of that operating agreement by Board of Supervisor resolution in 2008, but that extension (again it is believed) would have ended not more than two years later.[3] If any other documentation exists further extending an otherwise expired operating agreement, particularly an extension providing authority for OHMVR to implement the Dust Control Program, why has it not been produced? Why not produce it now?

Assuming is no "there there" regarding an actual, existing operating agreement between SLO County and OHMVR, there also is no existing evidence – at least not known to this commenter -- of any written lease now or ever being in place (which, if true, would negate any argument about a "month-to-month holdover tenancy" being in place)[4], or of any kind of written use agreement, or of any written easement agreement, or of a written license agreement.

In addition, other than perhaps a not-to-exceed two-year extension granted by Board of Supervisor resolution in 2008 of the otherwise expiring operating agreement, there appears to be no written evidence of any attempt by SLO County to utilize or comply with statutory sections such as Government Code Section 22356(a) (authorizing Counties to enter into leases) in its dealings with OHMVR. Nor,

---

[3] This act by Board of Supervisors resolution is critical for at least these two reasons: (1) it underscores an understanding on the part of the County that arrangements for third-party occupation and operation of County-owned land must be dealt with formally, legally, and in writing, and (2) it underscores an appreciation on the part of the County that without taking formal action to extend the Operating Agreement – or to have something with OHMVR/State Parks in place – the County would have from the unauthorized occupant neither rental/use income nor accountability nor indemnification.

[4] It is very perplexing that in the just-released Staff Report for the CDP hearing, there is no reference to an existing operating agreement. Rather, at pages 10-11 **(copies of pages attached - #6)** the report says: "The La Grande property occupies 584 acres of the Park (or about 40% of the overall riding area) and *this area is primarily owned by San Luis Obispo County and is currently leased by the County to DPR on a month-to-month basis.* (emphasis supplied) This highly dubious property right status is not referenced in the FEIR.

as evidenced by written communication such as the County's February 24, 2016 letter (**copy of letter is attached - #7**), is there yet a written "Memorandum of Understanding" in place between the County and OHMVR, even though the County's own Local Coastal Plan (LCP) specifically provides that administration and management of County-owned land by "State Parks" (which would include the La Grande Tract) is to occur pursuant to a written MOU.

This last point raises two obvious questions: If there truly is an existing operating agreement in place that authorizes OHMVR to implement the Dust Control Program, why would there be any need for the County to even write the February 24, 2016 letter? And: If there truly is a "month-to-month" lease in place as asserted in the Staff Report, when was it created, how and when was it approved, and where is there documentation of the purported lease terms?

If all that appears to be true -- that no existing operating agreement exists -- is true, OHMVR would not have the right to act in accordance with a Coastal Development Permit issued by the Coastal Commission (including fulfillment of Dust Rule mitigation measure obligations) because while the Coastal Commission can issue a CDP it does not have any authority to vest OHMVR with property rights in property the Coastal Commission does not own. Similarly, if what appears to be true is true, OHMVR would not have the ability to fulfill Dust Rule-related directives imposed by SLOAPCD because SLOAPCD likewise does not have the authority to vest OHMVR with property rights (to implement those measures) in property the SLOAPCD does not own.

Perhaps even more significant, in choosing to submit its "Dust Rule Compliance" CDP permit application to the Coastal Commission rather than to SLO County[5], OHMVR essentially placed SLO County in the position of being at least a quasi-outsider to the CDP proceedings; but a quasi-outsider nevertheless squarely put on notice that there are dangerous and unhealthy conditions that have been created and allowed to persist on County-owned land. It also appears from all

[5] While the concept of a "consolidated permit" application is understandable, this does serve as method for OHMVR to try to avoid having a written MOU in place with SLO County.

objective and verifiable evidence – short of a here-to-fore missing document suddenly appearing -- that those dangerous and unhealthy conditions have been permitted to exist under "the watch" of an unauthorized third-party trespasser when at all times the County independently has had the clear and present ability and authority – and responsibility to its citizens -- to terminate (or control and mitigate) the dangerous and unhealthy conditions. Insofar as the County has failed to deal with this very obvious and troublesome situation when it had the right, authority and responsibility to do so, where does that place the County in terms of potential liability exposure, particularly with no document appearing to exist presently containing even rudimentary hold harmless, defense and indemnification language?

Just as it appears that joint efforts are being undertaken among OHMVR, CARB and the SLOAPCD on issues relating to Dust Rule implementation, this commenter respectfully submits that such efforts could be for naught unless and until OHMVR and SLO County have a properly authorized, written agreement (e.g. a Memorandum of Understanding?) in place. Otherwise, hyper-technical and circular legal arguments aside, OHMVR plain and simple would appear to have no property right emanating from the property owner to do anything on, at or within the La Grande Tract property owned by SLO County.

At the root of things, this is why both parties, each for its own reasons and interests, need to have a proper written agreement in place, regardless of whether a court is requiring it or not.

Of course, if my comments are totally off base and if either OHMVR or SLO County has a document in its possession that comprehensively addresses and disposes of the property rights and indemnification issues (or constitutes the elusive "existing operating agreement authorizing OHMVR to implement the Dust Control Program" or the alleged "month-to-month lease"), OHMVR as the permit applicant should not hesitate to produce that document immediately and ensure that it becomes part of the official record of the pending CDP proceeding.

But if such a document does not presently exist and documentary evidence of same cannot be/is not produced prior to or at the upcoming hearing, the OHVMR's CDP application should not be approved until a comprehensive, written, binding agreement providing authority relating to the La Grande Tract is in place – or until an appropriate condition requiring is formulated and added. Again, the logical tool to be used would be the Memorandum of Understanding provided for in the County's LCP, and it should not take a court order to explain why the MOU needs to be in place. Common sense, certainly, and one would hope even good political sense, should suffice.

Thank you for considering my comments during your deliberations.

Sincerely,

Michael C. Normoyle

cc: Ronnie Glick, Sr. Environmental Scientist, Oceano Dunes District, CDPR, OHMVR Division (by email)
Clerk, Board of Supervisors, San Luis Obispo County (by email)
San Luis Obispo County Counsel's Office (by email)

3 Dust Control Program Area

As described in Draft Program EIR Section 2.3.1, the proposed Dust Control Program area primarily consists of approximately 690-acres of state-owned and state-operated lands at Oceano Dunes SVRA (see Exhibit A, Figures, for Draft Program EIR Figure 2-5)[1]. An additional, approximately 295-acre area of privately-owned lands located immediately downwind and adjacent to Oceano Dunes SVRA is the area in which all potential tree plantings would occur. Track-out prevention devices and the continued operation and maintenance of existing dust control and monitoring activities would also occur in small isolated areas at and near Oceano Dunes SVRA, but outside of the primary 690-acre Program area.

The proposed Program area includes the portion of Oceano Dunes SVRA located between approximately 280 degrees to 315 degrees upwind of the SLOAPCD's CDF ambient air quality monitoring station. The Program area includes most of the open sand areas in the central to northern portion of the Oceano Dunes SVRA open riding and camping area, commonly referred to as the "La Grande Tract." SLOAPCD and OHMVR Division studies have identified this area as the area most likely influencing air quality measurements at the CDF station and air quality conditions on the Nipomo Mesa (see Draft Program EIR Section 1.1.2). The proposed Program area also includes the areas where seasonal wind fencing and straw bale arrays were implemented in 2014, 2015, and 2016 by the OHMVR Division and SLOACPD, in consultation with CARB (see Draft Program EIR Section 2.2.7.4). Finally, the proposed Program area is situated in the middle of the SLOAPCD's CDF air quality forecast zone, which is the zone that experiences the worst air quality conditions during high wind and dust events.

The proposed Program area avoids USFWS-designated critical habitat for the western snowy plover, which borders the Program area to the west.

4 Dust Control Project Siting Factors and Adaptive Management Approach

The OHMVR Division has identified conceptually preferred and alternate scenarios for possible Program implementation (see Exhibit A, Figures, for Draft Program EIR Figures 2-8 and 2-9). Importantly, although conceptual scenarios were included in the EIR for impact evaluation purposes, final locations for dust control projects have not been identified or evaluated for consistency with the Program EIR's objectives, impacts, etc. Thus, actual planting areas and seasonal dust control measure locations are subject to change.

The OHMVR Division directs the CCC to Draft Program EIR Section 2.3.3, which describes the environmental, technical, and logistical factor that would generally guide where the OHMVR Division would ultimately plant vegetation and deploy seasonal dust control measures. These factors, include but are not limited to, Rule 1001 compliance, resource and recreation management considerations, and material availability and cost factors. In addition, the OHMVR Division would incorporate the latest results from any dispersion modeling exercises completed by the OHMVR Division, SLOAPCD, and the California Air Resources Board, as such dispersion modeling is intended to assist with the selection of potential dust control project locations (see Final Program EIR Section 2.2).

[1] The exact acreage of this primary Dust Control Program area is 688 acres.

~~fencing~~ PRE projects ~~is~~are not part of the baseline environmental conditions against which the EIR evaluates potential Program impacts.~~:~~ ~~however~~Furthermore, this PRE array was removed in Fall 2016 and as such has no potential to result in impacts that could combine with the proposed Dust Control Program activities.

On page 2-16 of the Draft Program EIR, the discussion of the other pilot and demonstration projects has been revised as follows:

> In Spring 2015, the SLOAPCD and the OHMVR Division proposed the use of soil stabilizers on an approximately two-acre area east of the northern end of Sand Highway (see Figure 2-4); however, this proposal was rejected by the CCC. Please refer to Section 2.3.2.~~3~~4 for additional information on soil stabilizers.

On page 2-18 of the Draft Program EIR, the text describing the basis for the proposed Dust Control Program has been revised as follows:

> The proposed Program area includes the portion of Oceano Dunes SVRA located between approximately 280 degrees to 315 degrees upwind of the SLOAPCD's CDF ambient air quality monitoring station (see Figure 2-5). The Program area includes most of the open sand areas in the central to northern portion of the Oceano Dunes SVRA open riding and camping area, commonly referred to as the "La Grande Tract." This part of Oceano Dunes SVRA is owned primarily by the County; however, the OHMVR Division has entered into an operating agreement with the County to operate this land. SLOAPCD and OHMVR Division studies have identified this area as the area most likely influencing air quality measurements at the CDF station and air quality conditions on the Nipomo Mesa (see Section 1.1.2). The proposed Program area also includes the areas where seasonal wind fencing and straw bale arrays were implemented in 2014, 2015, and 2016 by the OHMVR Division and SLOACPD, in consultation with CARB (see Sections 2.2.7.4). Finally, the proposed Program area is situated in the middle of the SLOAPCD's CDF air quality forecast zone, which is the zone that experiences the worst air quality conditions during high wind and dust events.

On page 2-18 of the Draft Program EIR, Footnote 5 describing the exact acreage of the proposed Dust Control Program area has been revised as follows:

> [5] The exact acreage of this primary Dust Control Program area is 688 acres. Together with the potential 295-acre tree planting area, the exact total acreage of the Dust Control Program area is 983 acres.

On page 2-31 to 2-32 of the Draft Program EIR, Section 2.4 describing the proposed schedule of activities has been revised as follows:

2.4 SCHEDULE OF ACTIVITIES

The OHMVR Division proposes to implement the Dust Control Program for an approximately five-year period, estimated to begin in spring 2017 and continue through late 2022 or 2023. In general, vegetation projects would be planted in the fall of each calendar year, beginning in the fall or early winter of 2017 and occurring each fall or winter until 2022. Seasonal dust control measures would be deployed from as early as March 1 and remain in place as late as September 30 of each calendar year. The OHMVR Division would remove all seasonal dust control measures as feasible; however, straw bales or other seasonal measures that become partially or fully buried and which cannot be reasonably removed could remain in place during and after the five-year period

4.18 Response to Comments from Michael Young

The OHMVR Division received three comments from Michael Young. In general, these comments are related to the OHMVR Division's authority to implement the proposed Dust Control Program in the proposed Program area and the proposed Program's potential economic and aesthetic impacts.

Comment R1: Mr. Young asks where the OHMVR Division's authority to implement the proposed Dust Control Program on the Le Grande Tract is derived from.

Response to Comment R1: As explained in the response to Comment K23 (see Section 4.11 of this Final Program EIR), the OHMVR Division operates the part of the SVRA within the County's La Grande Tract under an existing operating agreement that provides the OHMVR Division with the authority to implement the proposed Dust Control Program.

Comment R2: Mr. Young asks if the OHMVR Division has conducted an economic analysis of the adverse impact of dust on the health, safety, welfare or property values of people and property affected.

Response to Comment R2: The OHMVR Division has not conducted an economic analysis of the potential adverse health, safety, welfare, or property value impacts associated with existing air quality conditions. Such a study is not a necessary part of CEQA review of the proposed Dust Control Program. Draft Program EIR Sections 1.1.1 and 1.1.2 provide information regarding the health effects of PM10 and the existing air quality conditions downwind of Oceano Dunes SVRA. As explained in more detail in the response to SLOAPCD Comment D13 (see Section 4.4 of this Final Program EIR), the Draft Program EIR describes the existing environmental conditions at and in the vicinity of the Dust Control Program area the time the OHMVR Division issued the Revised NOP for the EIR (February 2015). As explained in the response to Comment O2 (see Section 4.15 of this Final Program EIR), the proposed Program would improve air quality conditions on the Nipomo Mesa and thus is not anticipated to result in the adverse impacts raised by Comment R2.

Comment R3: Mr. Young asks what about the aesthetics of dune vehicles trespassing on land owned by SLO County.

Response to Comment R3: As explained in more detail in the OHMVR Division's response to SLOAPCD Comment D13 (see Section 4.4 of this Final Program EIR), the Draft Program EIR describes the existing environmental conditions at and in the vicinity of the Dust Control Program area the time the OHMVR Division issued the Revised NOP for the EIR (February 2015). Specifically, Draft Program EIR Section 6.2 describes the existing visual resource setting of the proposed Dust Control Program and states (page 6-4), "In addition to views of the ocean, beach, open sand areas, and vegetated dunes (i.e., landscapes and landforms), Pismo State Beach and Oceano Dunes SVRA are active recreation areas in which fishing, camping, street-legal and OHVs, equestrian and other recreational activities regularly occur (i.e., cultural modifications). Visitor vehicles and campers may be brightly colored and have flags elevated above the vehicle (particularly parked campers); some campers also install wood or fencing around the camper to reduce sand blasting and erosion during high winds. Pismo State Beach and Oceano Dunes SVRA also include visitor-serving facilities such as marker posts, restrooms, garbage

#3

4.24 Response to Oral Comments Received on August 23, 2016

As stated in Section 1.1 of this Final Program EIR, the OHMVR Division held a public meeting to review the contents and findings of the Draft Program EIR on August 23, 2016. The public was invited to make oral comments at this meeting. In total, the OHMVR Division received and answered 41 total comments, many of which were not related to the content and findings of the Draft Program EIR, were not germane to the CEQA process, or were substantially similar to written comments the OHMVR Division received on the Draft Program EIR. Below is a summary of the oral comments received and the answers provided. Where possible, the OHMVR Division has identified responses to written comments that provide additional information on the issue raised during the public meeting.

Oral Comment 1: A member of the public noted that planting vegetation inside the Oceano Dunes SVRA would result in the loss of riding area.

> *Response to Oral Comment 1*: Draft Program EIR Impact REC-1 evaluates the potential for the proposed Dust Control Program to limit and interfere with coastal vehicular recreation areas and concludes the proposed Program would result in a significant and unavoidable impact to vehicle recreation at Oceano Dunes SVRA.

Oral Comment 2: A member of the public asked about land ownership and the operating agreements between the OHMVR Division and SLO County.

> *Response to Oral Comment 2*: The Program area includes most of the open sand areas in the central to northern portion of the Oceano Dunes SVRA open riding and camping area, commonly referred to as the "La Grande Tract." As explained in the response to Friends of Oceano Dunes Comment K23 and K130 (see Section 4.11 of this Final Program EIR) the OHMVR Division operates the part of the SVRA within the County's La Grande Tract under an existing operating agreement. This existing operating agreement provides the OHMVR Division with the existing authority to implement the proposed Dust Control Program.

Oral Comment 3: A member of the public asked if federal agencies were involved in the review of the proposed Dust Control Program and whether the proposed Program was subject to review under the National Environmental Policy Act.

> *Response to Oral Comment 3*: As explained in the response to Friends of Oceano Dunes Comment K104 (see Section 4.11 of this Final Program EIR), the proposed Dust Control Program is not subject to NEPA review because it would not require a permit or other approval from a federal agency.

Oral Comment 4: A member of the public suggested the OHMVR Division should evaluate the economic impacts to the local community from the loss of property values and business activity associated with the dust issue.

> *Response to Oral Comment 4*: As explained in the response to Comment R2 (see Section 4.18 of the Final Program EIR), the OHMVR Division has not conducted an economic analysis of the potential adverse health, safety, welfare, or property value impacts associated with existing air quality conditions. As a point of clarification, CEQA Guidelines Section 15064 (e) specifies that economic and social changes resulting from a project shall not be treated as significant effects unless there is a physical change caused by the economic or social effect, and there is no evidence to suggest the community of Oceano, the Nipomo Mesa, or the other surrounding land areas are suffering an adverse physical environmental effect resulting from a social or economic impact associated with the proposed

#4

Response to Comment K129: As explained in more detail in the response to Comment K66 above, the Draft Program EIR explains (page 5-1) the OHMVR Division, SLO County, the City of Grover Beach, and the CCC have consented to a consolidated CDP process by which the CCC will act upon the OHMVR Division's CDP application.

Comment K130: Friends of Oceano Dunes requests the OHMVR Division provide a copy of the document that, pursuant to PRC Section 30601.5, provides the OHMVR Division with a legal right, interest, or other entitlement to the La Grande tract.

Response to Comment K130: As explained in the response to Comment K23 above, the OHMVR Division operates the part of the SVRA within the County's La Grande Tract under an existing operating agreement. This operating agreement provides the OHMVR Division with the authority to implement the proposed Dust Control Program.

Comment K131: Friends of Oceano Dunes states the Draft Program EIR does not contain a sufficient degree of analysis to provide decision makers the ability to intelligently consider the proposed Dust Control Program's environmental consequences.

Response to Comment K131: Comment noted. The Draft Program EIR was prepared in accordance with CEQA and the CEQA Guidelines. The OHMVR Division disagrees with Friends of Oceano Dunes and notes Comment K131 does not provide any specific evidence explaining why the Draft Program EIR lacks a sufficient degree of analysis.

Comment K132: Friends of Oceano Dunes states no set of terms and conditions could ensure the proposed Program would be in compliance with the Coastal Act.

Response to Comment K132: Comment noted. Matters pertaining to the CCC's administrative authority and procedures for processing and issuing a CDP are outside the scope of the OHMVR Division's CEQA review of the proposed Dust Control Program.

Comment K133: Friends of Oceano Dunes states the Draft Program EIR does not indicate whether it has notified the Federal Avian Administration (FAA) regarding the proposed meteorological monitoring equipment.

Response to Comment K133: Friends of Oceano Dunes is mistaken. The OHMVR Division directs Friends of Oceano Dunes to Draft Program EIR Section 5.1.3, which discusses the Oceano County ALUP, including policies related to FAA regulations. Friends of Oceano Dunes also directs Friends of Oceano Dunes to the discussion under Draft Program EIR Impact LUP-3, which states, "The proposed Dust Control Program would not significantly increase airport-related risks for park visitors or interfere with takeoff, landing, or maneuvering of pilots, nor would it exceed the height of any FAA civil airport surface." Since the proposed Program would not exceed any FAA civil airport surface areas, it would not require FAA notification.

Comment K134: Friends of Oceano Dunes states the Draft Program EIR does not discuss whether the monitoring equipment or the placement of towers requires Federal Communications Commission (FCC) approval or licensing.

Response to Comment K134: The proposed 10-meter meteorological towers would not require an FCC license because they are below the height (200 feet) needed to obtain a license from the FCC and the FAA and the week cellular data connection that would be used retrieve data from the meteorological monitoring equipment would not interfere with broadcast communications.

Guadalupe-Nipomo Dunes National Wildlife Refuge. ODSVRA is mostly owned and entirely operated by the California Department of Parks and Recreation's (DPR) Off-Highway Motor Vehicle Division. The Park is a very popular visitor destination, with annual attendance in the millions and annual vehicular use in the hundreds of thousands.

ODSVRA encompasses 3,590 acres and includes approximately six linear miles of sandy beach. Approximately 1,500 acres of ODSVRA (or almost two square miles) and three miles of beach are currently available for off-highway vehicle (OHV) use, and street-legal vehicle use can range essentially along the entire six-mile stretch. The Park varies in width from a few hundred yards along its northerly boundaries near the Pismo Dunes Natural Preserve to up to three miles wide in places along its southerly portion. ODSVRA is divided into different regions based upon allowable activities, including areas set aside strictly for resource protection and preservation, for street-legal vehicle use, and for a combination of street-legal/OHV use. The separation and delineation of these specific areas was developed through past cooperative efforts of DPR, the Coastal Commission, San Luis Obispo County, and the California Department of Fish and Wildlife (CDFW). The entire ODSVRA area has been identified by the Commission as an environmentally sensitive habitat area (ESHA).[5] Furthermore, the entire ODSVRA area is mapped as a sensitive resource area (which also constitutes ESHA per the LCP) in the San Luis Obispo County LCP (see **Exhibit 3**). ODSVRA is part of a significant and sensitive ecological system, the Nipomo-Guadalupe dunes complex, much of which has been preserved exclusively for habitat protection purposes. In addition, ODSVRA has been identified as critical habitat for the threatened Western snowy plover, and supports other sensitive species, including the endangered California least tern, Steelhead trout, and Tidewater goby, which are protected under the Federal and State Endangered Species Acts.

There are two interim vehicular entry points for ODSVRA.[6] The northernmost entrance (and the northern boundary for allowed vehicular use of any kind on the beach) is at West Grand Avenue within the City of Grover Beach (see **Exhibit 1**). The second entrance is located about one mile south of West Grand Avenue at Pier Avenue within the unincorporated community of Oceano. From both entry points onto the beach, street-legal vehicles then drive approximately two miles south along the lower beach towards the interim OHV staging and allowed riding areas (see staging and riding areas noted on **Exhibit 1**). This staging area is the designated area where OHVs that have been trailered in by street-legal vehicles can be off-loaded and ridden. OHVs may be off-loaded in other areas south of the staging area, but the staging area at Post 2 is the location where OHV use is first allowed heading south from the interim entrance points. OHV riding is allowed in most of the Park area south of the staging area, and street-legal vehicle use can range essentially along the entire six-mile stretch of the ODSVRA. The riding area consists of the sandy beach located between the staging area to the fencing constructed north of Oso Flaco Lake, a distance of approximately three miles, as well as the back dunes from approximately Post 4 to Post 8, where the back dune riding area extends in some areas almost two miles inland. Included in the riding area between approximately Post 4 and Post 7 is the La Grande property (see **Exhibit 1**). The La Grande property occupies 584 acres of the Park (or

[5] See, for example, CDP 4-82-300 as amended, and Commission reviews related to its implementation over the years.

[6] See discussion that follows regarding CDP 4-82-300 for details on the 'interim' nature of Park access.

about 40% of the overall riding area), and this area is primarily owned by San Luis Obispo County[7] and is currently leased by the County to DPR on a month-to-month basis.

Just south of the open riding area is the Oso Flaco Lake area (see **Exhibit 1**). The Oso Flaco Lake area was historically open to riding prior to the creation of ODSVRA, but was closed off to OHV use in 1982 due to severe resource degradation from OHV use in that area. This area now supports a healthy system of distinct habitats, including freshwater lakes and a marsh, a significant riparian system, vegetated dune habitats, and coastal sage scrub. A pedestrian-only access point to the Oso Flaco Lake area is located at the end of Oso Flaco Lake Road.

See site location maps, ODSVRA maps and figures, and photos of the ODSVRA area in **Exhibits 1 and 2**. In addition, DPR also provides access to an interactive virtual tour of the site that is available at http://www.regal360.com/clients/ohv/index.html.

B. Coastal Development Permit 4-82-300 and Amendments Background

Under the Coastal Act, ODSVRA operates under a CDP issued by the Coastal Commission in 1982. The CDP identifies the basic parameters for Park operation, including its access and staging areas, where OHV riding and camping is allowed, the number of allowed OHV vehicles and camping units allowed, and requirements for habitat and sensitive species protection. The CDP has a long history and a unique operating structure, and has been amended five times, as described below.

CDP 4-82-300

On June 17, 1982, prior to certification of the LCP's Land Use Plan (LUP), the Commission first approved CDP 4-82-300 to allow DPR to construct fencing to delineate use and restricted areas, to establish interim Park access control (via the construction of two interim kiosks at entry locations), to designate an interim OHV staging area, and to address the carrying capacity of the Park by setting vehicle use limits. The fencing, interim staging and access areas, and use limits were permitted as the initial phase of what was seen as a longer term program to manage OHV use within the ODSVRA consistent with the access, recreation, and resource protection policies of the Coastal Act.

Special Condition 2 of CDP 4-82-300 (see **Exhibit 4**)[8] required the temporary access kiosks to be located at West Grand Avenue in Grover Beach and Pier Avenue in Oceano (see locations in **Exhibit 2**). Per Special Condition 3, the kiosks were to be manned with DPR representatives giving OHV users information about the CDP 4-82-300 terms and conditions, including with respect to CDP restrictions on riding within fenced-off areas, prohibitions on riding within the

[7] According to DPR, there are also 41 additional private inholdings in the La Grande Tract area, totaling some 4.5 acres overall. Each of these property owners has been invited to be a co-applicant for this proposed project in accordance with Coastal Act section 30601.5, but none have expressed interest in same.

[8] **Exhibit 4** shows the conditions of CDP 4-82-300 and its five amendments in order, including in strikethrough and underline format to show the ways in which subsequent amendments altered previous conditions. **Exhibit 4** also includes a clean copy of the conditions of the CDP as amended through and including 4-82-300-A5 at the end of the exhibit starting on page 38. These latter conditions are the conditions currently in effect.

OFFICE OF THE

COUNTY COUNSEL

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SHANNON G. MATUSZEWICZ
WHITNEY G. MCDONALD
ERICA STUCKEY
DAVID STOTLAND
DEBRA K. BARRIGER
BENJAMIN R. DORE

February 24, 2016

Sent via U.S.P.S. Mail and Email

Mitchell E. Rishe
Deputy Attorney General
Office of the Attorney General
300 Spring Street, Suite 1702
Los Angeles, CA 90013
Email: Mitchell.Rishe@doj.ca.gov

Re: *Mesa Community Alliance v. California Department of Parks and Recreation*
Case No. 14-CV-0096

Dear Mr. Rishe:

I write to request that the Department of Parks and Recreation begin immediately to commence negotiations over a new Operating Agreement for the Department's use of the County-owned La Grande Beach Tract.

As you are aware, the Department operated on the La Grande Tract pursuant to a June 20, 1983 Operating Agreement from June of 1983 until June of 2008. That Operating Agreement provided for the care, maintenance, development, operation and control of the County-owned land. It also provided the County with defense and indemnity against claims like those made in the above-referenced lawsuit. A successor Operating Agreement could resolve a number of outstanding issues and could provide the County and the Department with greater certainty in the operation of the La Grande Tract.

Please let me know at your earliest convenience if the Department is willing to engage in negotiations over a successor Operating Agreement. I look forward to hearing from you.

Very truly yours,

RITA L. NEAL
County Counsel

By: Timothy McNulty
Assistant County Counsel

TM:plh
cc: Babak Naficy
586plhltr.docx

#7

From: Doug Sweet
To: Kahn, Kevin@Coastal
Subject: Dust on the Nipomo Mesa
Date: Thursday, September 07, 2017 11:12:23 AM

Dear Kevin:
As a 3rd generation San Franciscan, I have been following the work and accomplishments of the Coastal Commission since the early 70's. Your work is to be commended and everyone on the Commission, from it's inception, should be proud of the job they have done protecting one of California's most valuable resources.

It is because of the Commission's tremendous track record I am writing this inquiry. How can such a dedicated team allow the destruction of the Nipomo/Oceano Dunes by ATVs to occur? How can there be no restrictions on the use of this fragile land? How can the dust particles from the reckless use of these dunes be allowed to slowly "poison" the residents of the Mesa?

I am asking the commission to initiate some rational restrictions on the use of the dunes. Can we limit the size of the dunes available to the ATVs? Can we restrict the use of ATVs on days when the winds is above X MPH? Is there something we can do to preserve the protective cover of the dunes and reduce the medical impact on the residents of the Mesa?

I sincerely hope the Commission can have an impact on the use of these valuable resources and the reckless use of the dunes by the State Park Service.

Best regards,
Doug

Doug Sweet
BioPath Marketing
805-455-4900

From: liz
To: Kahn, Kevin@Coastal
Subject: Fw: SEPTEMBER 14 MEETING
Date: Friday, September 01, 2017 7:38:28 PM

Kevin,

I understand you have on your agenda for Sept. 14 a discussion on State Parks application regarding their implementation of mitigating the enormous amount of particulate matter created by the off road vehicles area of the dunes.

I am a resident of the Nipomo Mesa....trapped in my home on bad air days. I urge you to adopt the 4 additions to the application proposed by Larry Allen in a letter to you recently. I especially endorse the fencing off (aka the snowy plover fencing) of the areas of riding that promote the most dust creation. The most ideal solution would be to prohibit vehicular riding of any kind on the dunes, but in the face of that probably not happening, the 4 suggestions are the least that should be agreed upon and carried out for the health of many more people (residents) than the number of those who have the thrill of "riding" the dunes.

Thank you very much for your time and effort in trying to solve this serious problem.

Elizabeth Murray

Nipomo Mesa Resident

From:	Gorden Fluker
To:	Kahn, Kevin@Coastal
Date:	Tuesday, September 05, 2017 8:15:42 AM

My wife and I have lived on the mesa for 17 months (we moved in on may 5 2016 . I now have AS-MA ? spelling,
its obvious there is a problem here. Yet all I hear is B/S about what to do about it.. When is the time wright for a
Legal response to this on going problem.

Gorden Fluker

Sent from Yahoo Mail. Get the app

From:	Kent Fossum
To:	Kahn, Kevin@Coastal
Cc:	Kent Fossum
Subject:	Nipomo Mesa Dunes Dust Problems/Concerns
Date:	Sunday, September 03, 2017 9:30:56 AM
Attachments:	Updated_DustCtrl_CDPProjDesc_20170721.pdf APCD Ltr To CCC on OHMVR 5Yr Plan-8-4-17Attachments.pdf Letter to Coastal Commission on Oceano Dunes EIR 2017-07-31.pdf

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Kevin Kahn, District Supervisor for the Costal Commission's Central Coast District, we have lived in the central coast since June of 2015 at Trilogy Monarch Dunes. Due to the continual dust problem we have purchased four air purifiers which we run 24 hours per day to control the silt that float into our house. We have to vacuum our outside furniture before we can us it. We would appreciate anything that can be done to control to flow of windswept dust. Sincerely, Kent and Natalie Fossum. P.S. if we need to discuss my cell # 714-473-0643. P.P.S. we move from Orange County where there was little or no problem unless there was a Santa Ana wind condition.

From:	Lucia Casalinuovo
To:	Kahn, Kevin@Coastal
Subject:	ODSVRA
Date:	Sunday, September 03, 2017 8:16:52 PM

---

dear Kevin
i understand that The CCC's limited staff time is for real. Funding for the Coastal Commission has never been allowed to recover from the draconian cuts it suffered in the last recession. I would hope the staff report would at least MENTION the issues yet to be tackled; i will do that during public comments.
and please during those talks you are having with Parks about management issues, remember what was said during the meeting in February. That meeting's staff report was the best i had ever seen. please refer to it . however, its suggestion to let Parks manage the numbers of users at is own discretion was wrong considering Parks' mismanagement of the numbers so far.
if fewer people drive on the beach and dunes,
less damage and dust will result.
ITS THAT SIMPLE
please keep me informed
thank you
lucia casalinuovo
per Safe Beach Now

From:	JOSEPH BRISKEY
To:	Kahn, Kevin@Coastal
Cc:	Cher Briskey
Subject:	State Park's CDP application for a permit for dust mitigation at Oceano Dunes
Date:	Wednesday, September 06, 2017 2:22:11 PM

Dear Mr. Kahn:

We are writing in urgent and strong support of stringent requirements for approval of State Park's CDP application for a permit for dust mitigation at Oceano Dunes under a proposed five-year plan.

We are in our 70's and live on the Nipomo Mesa in south San Luis Obispo County where our health is being adversely affected by exposure to dangerous levels of carcinogenic PM 10 silica dust from the Oceano off-road vehicle "park." My wife has asthma but we both have breathing difficulties on these days, which numbered 57 in 2016. It is intolerable. California State Parks' OHV Division has shown itself to be a villainous state agency resisting all serious efforts to protect us and our similarly afflicted neighbors so that off road joy riders can have "fun" and local members of the Chamber of Commerce can make a few bucks while happily sacrificing their neighbor's health. This lawless state agency recently and unilaterally removed a critical air control monitor apparently in an effort to hide unhealthy readings. We understand that this control monitor had been used to determine Rule 1001 violations. Such an indefensible action by the OHV Division should be thoroughly investigated and those responsible fired. Indeed, these kinds of actions, especially by government employees, should be illegal and the perpetrators imprisoned.

If you gather that we are angry, you are absolutely right. When did it become morally defensible, let alone legal, to intentionally endanger neighbor's health and well being for fun and profit, especially in California. We do not ask that the park be closed, only that known and EFFECTIVE mitigation steps be implemented to protect our health. How is that unreasonable?

Larry Allen of the SLO Air Pollution Control District has been a principal objective source of knowledge, conscience, and reason throughout this whole sordid process. We urge the Coastal Commission to incorporate the four essential caveats Mr. Allen has identified for permit approval. Thereafter, the Commission can be assured of both our gratitude and enthusiastic support.

Sincerely,

Joe and Cheri Briskey
1425 Trail View Place
Nipomo, CA 93444

Joseph Briskey
jbriskey@icloud.com
1425 Trail View Place
Nipomo, CA 93444

jbriskey@icloud.com
703-298-4277 cell
805-219-0076 home

CALIFORNIA COASTAL COMMISSION
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Th23b

CDP 3-12-050 (ODSVRA DUST CONTROL)

SEPTEMBER 14, 2017

CORRESPONDENCE RECEIVED

Table of Contents

COUNTY OF SAN LUIS OBISPO
BOARD OF SUPERVISORS

August 22, 2017

California Coastal Commission
c/o Kevin Kahn, District Supervisor
725 Front Street, Suite 300
Santa Cruz, CA 95060

RE: OHMVR Coastal Development Permit Application

Dear Honorable Commissioners:

Thank you for the opportunity to provide comments on the Coastal Development Permit application filed by the California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division (OHMVR) to implement dust control measures at the Oceano Dunes State Vehicular Recreation Area (ODSVRA) in the City of Grover Beach and in unincorporated Oceano in Southern San Luis Obispo County.

Please accept this support for the (OHMVR) Division's plan for controlling dust emissions at the Oceano Dunes State Vehicular Recreation Area (ODSVRA). The measures included in the plan will provide significant mitigation to reduce dust emissions in the area.

As County Supervisors, we also serve on the San Luis Obispo County Air Pollution Control Board. If we are to provide solutions that make timely improvements to the dust emissions situation in the Oceano Dunes area, we will need to work collaboratively with State Parks, the California Coastal Commission, and the California Air Resources Board.

We urge you to approve the Coastal Development Permit to allow the OHMVR to move forward with their five-year plan to reduce emissions and improve air quality at the ODSVRA.

Thank you for your consideration.

Sincerely,

John Peschong, Chair
District One Supervisor

From: Carl, Dan@Coastal
To: Kahn, Kevin@Coastal
Subject: FW: environmemtal justice
Date: Wednesday, August 09, 2017 9:33:44 PM

For correspondence for SR

From: Lucia Casalinuovo [mailto:luciagalore@gmail.com]
Sent: Wednesday, August 09, 2017 7:49 PM
To: Chaver, Yair@Coastal <Yair.Chaver@coastal.ca.gov>; Carl, Dan@Coastal <Dan.Carl@coastal.ca.gov>
Subject: environmemtal justice

hello

this is Lucia Casalinuovo

Oceano's resident.

can you please get this message to the commisioners?

thank you

The United States Environmental Protection Agency defines environmental justice as : the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies... It will be achieved when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn, and work**. I think Oceano is being discriminated against because it is a beach community yet it is denied a safe beach access free from vehicles and it is not involved in the decision making process regarding the management of the Oceano Dunes State Vehicular Recreation Area (ODSVRA). In Oceano, we are mostly latino and poor. Most of us lack knowledge, means, and skills to voice, let alone fight the environmental injustice done to us by letting vehicles drive through our community, on the beach , and dunes . While others enjoy themselve, we are forced to suffer from bad air quality, traffic congestion, and exclusion from the decision making process.**

From:	Stan Gitler
To:	Kahn, Kevin@Coastal
Subject:	Oceano Dunes SVRA dust control plan
Date:	Tuesday, August 22, 2017 5:01:43 PM
Attachments:	APCD Ltr To CCC on OHMVR 5Yr Plan-8-4-17Attachments.pdf

Dear District Supervisor Kahn:

I am a resident of Nipomo and am directly affected by the exposure to bad air quality in our community.

In that regard, I request that:

1) The proposed project area should not exclude any highly emissive areas from consideration as locations for dust control.

2) The amount of acres of mitigation should be determined by the CARB modelling and APCD Particulate Matter Reduction Plan (PMRP) in compliance with the Coastal Commission requirements. Compliance with Rule 1001 is the goal

3) To protect public health in the most timely and cost-effective manner, ALL vegetation planting for dust control should occur within the most emissive riding areas shown in Attachments 2 and 3 of Larry Allen's letter (attached).

4) The permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as shown in attachment 3 of Larry Allen's letter (attached).

Thank you so very much for your efforts to protect our health and safety.

Very truly yours,

Stanley H. Gitler
1014 Jane Ann Court, Nipomo, CA 93444-6667
shgitler@gmail.com ; Home: 805-343-2916; Cell: 215-359-8928

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From:	Bill Kennedy
To:	Kahn, Kevin@Coastal
Subject:	Oceano Dunes SRVA dust control plan
Date:	Tuesday, August 22, 2017 5:43:24 PM

It is far past time for the health of the residents of Nipomo and Guadalupe to be protected as required by statute. The half hearted efforts that have taken place so far are not effective. State Parks must take this seriously instead of hoping that the people affected will accept the tepid efforts made so far. We Will Not!

I have reviewed the dust control program and agree with all of the recommendations made by the APCD's Larry Allen. The CARB and APCD letters emphasize that the plan will need to be modified, including the inclusion of the results from the CARB computer modeling, which was developed specifically to inform future dust mitigation efforts.
The Coastal Commission must take action if we are to have mitigation in place for the 2018 windy season.

1) The proposed project area should not exclude any highly emissive areas from consideration as locations for dust control.

2) The amount of acres of mitigation should be determined by the CARB modelling and APCD Particulate Matter Reduction Plan (PMRP) in compliance with the Coastal Commission requirements. Compliance with Rule 1001 is the goal

3) To protect public health in the most timely and cost-effective manner, ALL vegetation planting for dust control should occur within the most emissive riding areas shown in Attachments 2 and 3 of Larry Allen's letter.

4) The permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as shown in attachment 3 of Larry Allen's letter.

Thank you for your help on this matter of extreme importance to me and my neighbors.

William Kennedy
Nipomo, CA. 93444

Sent from my iPad

From: Arlene Versaw
To: Kahn, Kevin@Coastal
Subject: Oceano Dunes SVRA Dust Control Plan
Date: Tuesday, August 22, 2017 6:23:34 PM

I would like to go on record as one who who believes this dust control plan is an affront to the residents of the Nipomo Mesa who live with a serious health threat from the dust emanating from this park. It does not begin to meet the standards and criteria of Rule 1001 and is simply more of the same ineffective, self-serving program State Parks has masqueraded as a serious attempt to mitigate the hazardous dust and protect public health. The goal of the plan MUST be Rule 1001 compliance.

For this plan to be viable, it would require that mitigation be put in the most emissive areas, that the California Air Resources Board modeling tool be employed to determine where the mitigation should be placed, that particular hot spots for emissions be fenced as needed and that the amount of mitigation be dictated by the CARB mdeling and and the Air Pollution Control District's Particulate Matter Reduction Plan.

Thank you for your consideration. Arlene Versaw, 2391 Turnstone Street, Arroyo Grande, CA 93420

From: Ed Harris
To: Kahn, Kevin@Coastal
Subject: State Parks Coastal Development Plan
Date: Tuesday, August 22, 2017 8:26:27 PM

Dear Mr. Kahn:

Thank you for allowing me to weigh in on the State Parks Coastal Development Plan for the Oceano Dunes State Vehicular Recreation Area. I agree with Mr. Larry Allen of the San Luis Obispo Air Pollution Control District in that the State Parks plan does not take into account the modeling done by the California Air Resources Board (CARB). So in effect, the mitigation to reduce the dust and airborne microscopic Crystalline Silica (known to cause cancer) will not be effective unless the scientific studies are taken into account.

The State Parks Development Plan should include the following:

1. The proposed project area should not exclude any highly emissive areas from consideration as locations for dust control.

2. The amount of acres of mitigation should be determined by the CARB modeling and APCD Particulate Matter Reduction Plan in compliance with the Coastal Commission requirements. We should be trying to get the State Parks to comply with Rule 1001.

3. To protect public health in the most timely and cost-effective manner, all vegetation planting for dust control should occur within the most emissive riding areas shown in Mr. Allen's attachments to the letter to the Coastal Commission.

4. The permit should include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as described by Mr. Larry Allen.

Thank you.

Ed Harris
1764 Louise Lane
Nipomo, CA 93444
movieln2@gmail.com

From:	Linda Reynolds
To:	Kahn, Kevin@Coastal
Subject:	The Oceano Dunes air issue
Date:	Tuesday, August 22, 2017 8:45:16 PM

Mr. Kahn,

As a resident of the Nipomo Mesa I hope the Coastal Commission will take immediate action regarding the serious health issue plaguing our area due to the uncontrolled dust in the OHV Park.

We need mitigation set forth immediately before the serious dust season occurs in 2018. As it is now we are still suffering from bad air even in the summer with the winds and the constant riding on the dunes late into the evenings.

Please follow the recommendations set forth in the APCD Particulate Matter Reduction Plan in compliance with the Coastal Commission requirements. It would be really nice if compliance with the rule 2001 is observed and not ignored by state parks.

Please, no more studying and time wasted on this issue. I have attended the last three meetings of the Coastal Commission and quite frankly I do not feel this issue is being taken seriously.

The residents of this community, which include young families, people who have to work outside and seniors with health issues need our officials to protect the health of a growing area. Of course, the fragile environment of the coast needs to be protected.

Kind regards,
Linda Reynolds
Resident of Nipomo

From:	Glenn Eineman
To:	Kahn, Kevin@Coastal
Subject:	The need for an effective dust control/mitigatiion program on the Oceano Dunes
Date:	Tuesday, August 22, 2017 9:03:01 PM

Mr. Kahn,

Living on the Nipomo Mesa we suffer from a serious dust issue many days of the year.

There needs to be proper mitigation of this issue. Not just overpriced, ineffective fencing and hay bails. There needs to be vegetation planting in the most emissive riding areas.

I have lived and visited many windy coastal communities and there is not a dust problem.
There is also not off road vehicles riding on the dunes in those areas.

Both the environment and the people up wind from this area need to be protected. Citizens are looking to the Coastal Commission to quickly, and efficiently mitigate this problem.
Sincerely,
Glenn Eineman
Nipomo, Ca.

From: Richard Wishner
To: Kahn, Kevin@Coastal
Subject: Comments on State Parks 5 year plan for the Oeano Dunes State Vehicular Recreation Area
Date: Tuesday, August 22, 2017 9:26:32 PM

Dear Mr. Kahn;

Rule 2001 is close to 6 years old and to date nil progress has been made on mitigating the dust emissions that cause damage to the lungs of citizens downwind of the Recreation Area. In my view State Parks mitigation attempts have not been serious. For the past three years they have involved putting haybales and fencing on the downwind (east side) of the recreation. How obstructions that are a few foot high are going to catch much of the frequent 1,500 foot high sand cloud escapes me and the laws of physics. Obstructions need to be put within the western edge of the riding area and perhaps in the middle of the area.

Given their past performance and the current inadequate plan, I urge the Coastal Commission to reject their five year plan. I suggest you inform State Parks that they need to include all of items outlined in the SLO APCD August 7, 2017 letter by Larry Allen to you. If feasible I suggest you at most approve a revised two year plan so that the Coastal Commission can reassess whether the mitigation measures are successful.

Sincerely,

Dr. Richard P. Wishner
1438 Vicki Lane
Nipomo, CA 93444

From: sandra tiffany
To: Kahn, Kevin@Coastal
Subject: Oceana Dunes
Date: Wednesday, August 23, 2017 7:24:06 AM

The dust and the health issues coming off the riding area of the dunes is evidenced by the Health Commission. We have lived here 4 years and the problem has increased each year. My husband is a Vietnam Nam vet and we live in the Townhomes at Monarch Dunes. We expect this issue to be resolved but not just for our safety/health - we are concerned for the children at Mesa Middle school and Dorothea Lange Elementary . They are extremely Susceptible to these particulates!! The workers in the fields are as well!
Thank you!
Sandra Tiffany
1175 Swallowtail Way
Nipomo, CA 93444
913-302-1222

Sent from my iPad
Sandi Tiffany

From: Dorothy Modafferi
To: Kahn, Kevin@Coastal
Subject: Ocean Dunes Off Highway Vehicle Park
Date: Wednesday, August 23, 2017 7:51:47 AM

I am writing regarding the Oceano Dunes SVRA dust control plan. The California Air Resources Board and the Air Pollution Control District have reviewed the plan and the attendant Environmental Impact Report and have deemed them both inadequate and incapable of meeting the requirements of Rule 1001 mitigation requirements.

Multiple readings of dust pollution due to the dust generated by the off road vehicles from the park and scientific studies have shown what is needed to help resolve the problem. The State Parks solutions in the past and in the future are inadequate and should no longer be used.

Using Air Pollution Control Officer Larry Allen's letter as a guide to mitigation is critical. All highly emissive areas should be locations for dust control. The amount of acres of mitigation should be determined by the CARB modeling and APCD Particulate Matter Reduction Plan (PMRP) in compliance with the Coastal Commission requirements. Compliance with Rule 1001 should be the goal.

To protect public health in the most timely and cost-effective manner, ALL vegetation planting for dust control should occur within the most emissive riding areas shown in Larry Allen's letter. The permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as shown in Larry Allen's letter.

As a resident living on the Nipomo Mesa, I am critically affected from the dust from the Oceano Dunes. My pulmonologist says that I am living in the wrong place for my lung problems, but I don't want to move as I love my home, neighbors and friends, and way of life in San Luis Obispo County. Why should I have to leave when I am not causing the problems? I have purchased special air filters for my home, keep my windows and doors closed, and stay indoors or go out of town during days of severe particulate pollution.

The problems are known and the solutions are scientifically shown so that residents downwind of the Oceano Dunes can safely live and the users of the Park can still continue to ride. This problem has gone on too long and needs to be resolved immediately. Our lives are dependent on your action.

Sincerely

Dorothy Modafferi
Nipomo, CA

From: Diane Graham
To: Kahn, Kevin@Coastal
Subject: Air Quality
Date: Wednesday, August 23, 2017 8:29:50 AM

Kevin,

My husband, Bob and I live in the Trilogy Monarch Dunes development. We have been residents since 2012.

We thought by moving to the Central Coast it would help with my rhinitis (allergy to dust and dryness) which I have had for several years.

On calm days with the ocean breezes I can enjoy the outdoors. I love walking, golfing and being outside.

There are months with several windy days and during these times I cannot be outdoors.

I check the air quality and Nipomo is usually in the Moderate zone - very seldom good. Other areas, e.g., Morro Bay, Arroyo Grande, Cambria, Pismo Beach are for the most part in the Good zone. So why is Nipomo filled with so many dusty days? I know there are others in our community that suffer from respiratory issues also.

Something needs to be done. This has been going on for far too long! Arlene and Rachel have worked diligently on this issue for years to no avail.

Regards,

Bob and Diane Graham

From: Gayle Hurlburt
To: Kahn, Kevin@Coastal
Subject: Oceano Dunes SRVA dust control plan
Date: Wednesday, August 23, 2017 8:36:58 AM

Mr. Kahn,

It is far past time for the health of the residents of Nipomo and Guadalupe to be protected as required by statute. The half hearted efforts that have taken place so far are not effective. State Parks must take this seriously instead of hoping that the people affected will accept the tepid efforts made so far. We Will Not!

I have reviewed the dust control program and agree with all of the recommendations made by the APCD's Larry Allen. The CARB and APCD letters emphasize that the plan will need to be modified, including the inclusion of the results from the CARB computer modeling, which was developed specifically to inform future dust mitigation efforts.
The Coastal Commission must take action if we are to have mitigation in place for the 2018 windy season.

1) The proposed project area should not exclude any highly emissive areas from consideration as locations for dust control.

2) The amount of acres of mitigation should be determined by the CARB modelling and APCD Particulate Matter Reduction Plan (PMRP) in compliance with the Coastal Commission requirements. Compliance with Rule 1001 is the goal

3) To protect public health in the most timely and cost-effective manner, ALL vegetation planting for dust control should occur within the most emissive riding areas shown in Attachments 2 and 3 of Larry Allen's letter.

4) The permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as shown in attachment 3 of Larry Allen's letter.

Thank you for your help on this matter of extreme importance to all in the effected area.

Gayle Hurlburt
1696 Northwood Road
Nipomo, CA 93444

Gayle Hurlburt

From:	Marcia
To:	Kahn, Kevin@Coastal
Subject:	Requirements for State Parks Coastal Development Permit for Oceano Dunes SVRA
Date:	Wednesday, August 23, 2017 10:46:52 AM

Dear Supervisor Kahn,

I am a resident of the Nipomo Mesa, in the direct path of the plume of hazardous dune particles generated from the Oceano Dunes SVRA that blows our way. The State Parks methods of mitigation of these particles, with hay bales & wind fencing has failed to decrease our exposure to these high levels of poor air quality.

The Coastal Commission must take action to require their permit to include mitigation actions that will acutally produce major results. Now that CARB modelling is available as a tool to determine which areas of the SVRA are out of compliance, the data should be used to revegetate those areas as soon as possible, like this fall/winter. This would enable the plants to take hold & spread in the spring before the 2018 windy season begins again. I feel that re-vegetation would be the most time & cost effective way to lock in these harmful dust particles over the long-term, reducing emissions, keeping the Nipomo Mesa air safer to breathe. Those areas that are deemed the most critical, "hot-spots", should be fenced-off, and eliminated from the riding areas.

Also, I think the State Parks should be required to post signs about the air quality hazards that riding on the dunes creates for themselves & the residents of the surrounding areas. This has to be a cooperative effort by all parties involved. I think, we residentsof the Mesa, have been very patient for a very long time, enduring the slow & failed efforts of the State Parks to mitigate an air quality problem they have allowed to continue.

Thank you for your consideration of my provisions for the State Parks Coastal Development Permit that you will be reviewing.

Best Regards,
Marcia Johnson

From: lori magaro
To: Kahn, Kevin@Coastal
Subject: Oceano Dunes SVRA Dust Control Plan
Date: Wednesday, August 23, 2017 1:20:13 PM

Residents of the Nipomo Mesa are frequently exposed to some of the worst air quality in the nation, the result of airborne particulates from the Oceano Dunes State Vehicular Recreation Area. Although mitigation is directed by Air Pollution Control District Rule 1001, hazardous air quality remains a critical issue. I believe the State Parks' proposed 5-year mitigation plan must be revised to incorporate recommendations outlined in Air Pollution Control Officer Larry Allen's August 7 letter to you:

- The proposed project area for dust control should include all highly emissive areas.
- The area of mitigation should be determined by the CARB modelling results and APCD Particulate Matter Reduction Plan, in compliance with Coastal Commission requirements.
- All vegetation for dust control should be planted within the most emissive areas (detailed in Attachments 2 and 3 of Mr. Allen's letter).
- The State Parks' permit for installation should include the ability to install perimeter fencing around certain highly emissive "hot spots" (attachment 3 of Mr. Allen's letter).

If public health is a concern to the Coastal Commission--as it is to those of us who reside in, work in, and visit the hazardous area—you must give these recommendations immediate and serious consideration. Thank you for this opportunity to comment.

Lori Magaro
Nipomo, California

MARTIN & MYRA AKEL

968 Jacqueline Place, Nipomo, CA 93444 • 805-219-0295 • akelassoc@earthlink.net

August 23, 2013

Mr. Kevin Kahn
District Supervisor
California Coastal Commission's Central Coast District

Re: The "Oceano Dunes Dust Issue" -- Using Science vs. Gut Instinct

Dear Mr. Kahn:

Our home is on the Nipomo Mesa, which makes us direct recipients of the dust that constantly blows from the Oceano Dunes across our entire community.

We know you're aware of the problem. And you're of course familiar with the APCD's (Larry Allen's) written response to the latest OHMR/State Parks plan to address the problem. We support all four key requirements that Mr. Allen presents in his letter to you of August 7th.

But we'd like to establish a key point -- the Coastal Commission's decisions on this issue should be based on science and research ... such as the CARB modeling initiative.

There's an old saying:
"Is that your gut instinct or have you done the research?"

Unfortunately, solutions instituted/proposed by State Parks are based on on gut instinct. Their approaches appear to be based on intuition and personal experiences -- which ultimately turn out to be faulty and insufficient. What they've tried has failed. In the meantime, people of all ages in SLO County keep breathing particulates that are tiny time bombs waiting to attack them in the coming years.

Additionally -- State Parks has taken actions that make it appear they're being proactive and "on-the-job." But they've simply painted over the problem. They've actually accomplished nothing.

(continued)

We appreciate State Parks' desire to allow off-roaders to entertain themselves. After all, enhancing the enjoyment of "Parks" is a large part of their mission. And to date, their actions have been to make the Oceano Dunes as accessible as possible, but only paying lip service to the "dust" issue, which isn't mission-sensitive.

On the other hand, The Coastal Commission's mission (to protect the coast) specifically says it does so "through rigorous use of science" and "strong public participation." The Commission's charge is also to see that activities on the coast do not cause danger or harm to the public.

Therefore -- the Commission should prioritize their approach to the "Dunes" issue:

1. The well-being of the dunes, vegetation and wildlife should not be ignored in order to satisfy the thrills enjoyed by off-roaders.

2. Decisions about use of the Dunes should be made based on science and research, not gut feel and experiences that have proved fruitless.

3. The views of those who actually live here in SLO County and are impacted by the dust problem, should supersede the views of those who come from all other parts of California and beyond ... i.e., those who come here a few times a year to ride their ATVs, and then live elsewhere 99% of the rest of the year.

   Yet, those "one-percenters" leave behind permanent health issues for local residents. That's why local residents (who reside here 100% of the time) are offering you ***"strong public participation"*** on the dust issue. And we're saying it must be addressed in a way that has viable and permanent resolutions.

Mr. Kahn -- as the Central Coast District Supervisor, we urge you to be an advocate of the citizens of the Nipomo Mesa. You represent us. We are being harmed most days of the year. We need your help. We need you and others to insist that State Parks' five-year proposal contain truly meaningful and lasting solutions. We can't wait five more years while the dust continues to gather in our bodies.

We appreciate your making our letter part of the staff's report and passing it on to decision makers on the Coastal Commission.

Thank you,
Martin & Myra Akel
968 Jacqueline Place, Nipomo, CA 93444

From:	Chris Sorensen
To:	Kahn, Kevin@Coastal
Subject:	Coastal Development Permit (CDP) Application - Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division
Date:	Wednesday, August 23, 2017 9:54:03 PM

Mr. Kahn,

I am a resident of the Nipomo Mesa, and am impacted annually by unnaturally high concentrations of fine dune dust particulate matter emitted from the Oceano Dunes State Vehicle Recreation Area. PM10 and PM2.5 emission concentrations recorded at the Cal Fire monitoring site near my home frequently exceed State health standards. This nuisance is the result of unmitigated destruction of the natural environment in the SVRA caused by off-highway vehicles. The State Parks OHMVR Division has in the past obtained permits from the Coastal Commission to install temporary mitigation measures that have targeted reduction of PM levels at the Cal Fire monitoring site. These temporary measures can only be seen as pilot tests, and Cal Fire site PM monitoring has demonstrated these measures have been ineffective.

The OHMVR Division has now submitted request for a permit to install similar ineffective half measures. Our local Air Pollution Control District's APCO, Larry Allen, in his letter of August 7, has recommended the Commission grant the OHMVR Division permit application, but with caveats. I support Mr. Allen's recommendations. Without a permit the OHMVR Division will likely not implement any mitigation before the 2018 high wind season, and we Mesa residents will again suffer the effects, as we did in 2017. However, ineffective measures installed without the benefit of the best science available (the Air Resources Board emissions model) would be a terrible waste of resources without public benefit. OHMVR Division should not be allowed to again do nothing and blame the Coastal Commission. Please urge the Commission to grant the OHMVR Division a permit with the flexibility to do what is right, without unnecessary delay.

Chris Sorensen
919 Lilly Court
Nipomo, CA 93444
H: (805) 343-1563
M: (650) 644-5089

August 23, 2016

Kevin Kahn, District Supervisor
Central Coast District Office
California Coastal Commission

Comments on CDP # 03-12-50
Oceano Dunes State Vehicular Recreation Area Updated Dust Control Program

Dear Mr. Kahn,

I would like to submit the following comments and suggestions for the upcoming hearing on the above named permit.

As a resident of the Nipomo Mesa I have firsthand knowledge of the unnaturally high levels of particulate matter (PM 10 and PM 2.5) created in the OHV Park and carried over our homes. Many years ago, the Coastal Commission required the park management to close the Oso Flaco Lake riding area and restore the fore dunes and back dunes to prevent further sand migration into the Oso Flaco lakes. It was done expediently and solved the problem. Protection of public health requires a similar action at this time.

The Updated Dust Control Program is a starting point to address the degradation of the coastal resources. It needs to be refined to target the hot spots identified in the modelling and reduce the intensity of use which created and perpetuates the problem.

The scope of the problem can best be described with these photos, charts and articles. The frequent plume and spikes in PM 10 and 2.5 have resulted in a beautiful area being designated as having some of the worst air quality in the country. Attached are: 1) photos of the plume 2) AM and PM photos of the dust in the air 3) AIRNOW designation for June 10, 2017 of Nipomo as the highest " Highest 5" in the country and a link to the American Lung Association "Most Polluted Cities" site listing #10 is San Luis Obispo.

I support approval of this plan as long as it includes the "caveats" noted in the APCD's comment letter and strictly adheres to the CARB modelling. Additionally, I feel the following suggestions should be considered.

- Hot spots identified by the CARB model should be fenced immediately and remain fenced until sufficient air quality improvement is recorded and vegetation has grown in.
- The remainder of the La Grande tract should be designated "low intensity use" meaning for camping, hiking, a children's riding area, use by light weight vehicles only and reduction in the number of vehicles allowed. Failure to do so will simply mean that areas of lower emissions now, will become the "new hot spots" in a few months as riders switch to other locations in the La Grande tract. Activity needs to move to the actual OHV property, to the south of La Grande tract.

- Restoration of habitat and vegetation must be a priority. The proposed plan states up to 100 acres "could be" planted over 5 years. Much of that could be in non-riding area based on their proposed dust control area. This is not a serious effort to address the problem.
- Planting directly in front of the CDF monitor should not be approved in this permit. This is potentially illegal as it could interfere with the operation of the EPA/CARB monitor.
- Mitigation and restoration should be done in the riding area first. That is the most emissive area.
- Artificial limits on areas or number of acres should be removed from the dust control program. The designated "critical habitat" area should be treated as such and the USFW recommendations to decrease the number of recreational vehicles in the SVRA should occur along with the other avoidance and minimization steps they recommended in their 2016 letters.
- The permit approval should incorporate a timeline and milestones for each activity. A monitoring group comprised of Coastal Commission biologists; APCD and CARB representatives; environmental group representatives; US Fish and Wildlife staff and the public should be included.
- The Commission should review the progress every 6 months until completed. Continuation of the annual reviews of management practices are also essential, as dust control is only one of many problems.

Thank you for the opportunity to provide my thoughts and observations on this important issue. I look forward to reading the staff report and attending the hearing in September.

Sincerely,

Rachelle Toti

Nipomo Mesa Resident

Cc: Larry Allen, SLO APCD
Kurt Karperos, CARB

Figure 16 – 4/28/11 Aerial Image from above Santa Maria River and HWY101 looking to the Northwest

Figure 17 – 4/28/11 Aerial Image from above Willow Road and HWY101 looking to the Southwest


ROAD
MAY
FLOOD

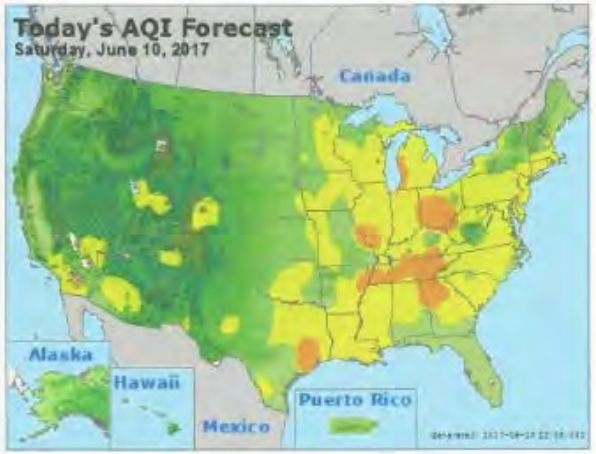
AirNow

Go

Local Air Quality Conditions

Zip Code: Go State : Alabama Go My Current Location

Maryland | Current AQI | AQI Loop | More Maps



Fires: Current Conditions

Click to see map

U.S. Embassies and Consulates
Data from air quality monitors at select U.S. embassies and consulates around the world

Announcements

6/7/17: 2017 Air Quality Flag Program Spring Challenge Winners. More

4/28/17: National Air Quality Conference, September 11 – 13, 2017. SAVE THE DATE!

more announcements

Air Quality Basics

Air Quality Index | Ozone | Particle Pollution | Smoke from fires | What You Can Do

Health

Learning Center

Good | Moderate | USG | Unhealthy | Very Unhealthy | Hazardous ! Action Day

Highest 5:

About the Highest 5

Today's Forecasts	Tomorrow's Forecasts	Current AQI
Nipomo, CA		276
Middletown, CT		150
Metropolitan Baltimore, MD		126
Camden, NJ		122
New Jersey, NJ		122

Note: Values above 500 are calculated Beyond the AQI. Follow recommendations for the Hazardous category. Additional information on reducing exposure to extremely high levels of particle pollution is available here.

Apps | EnviroFlash Email | Facebook | Widgets | Webcams | RSS | Videos | Twitter | AirNow on Google Earth | Developer Tools

Popular Links

- AirNow Action Days
- AirNow International
- AQI Calculator
- FAQs
- Flag Program
- Publications | Publicaciones (en español)

Links A-Z

About AirNow
AirNow International
Air Quality Action Days / Alerts
AirCompare
Air Quality Index (AQI)
AQI Calculator
Canada Air Quality
EnviroFlash E-mail
EPA Burn Wise
FAQs

Fires: Current Conditions
For Partners
Health
Health Providers
Healthy Heart
Links to International Air Quality Sites
List of Partners
Kids
Movies
NAQ Conferences

Particle Pollution (PM2.5, PM10)
Publications
Publicaciones (En Español)
Smoke Advisories
Story Map:Combined Ozone and PM in 2016
Story Map:Ozone in 2016
Story Map:PM in 2016
Students
Teachers
Videos Green

From: Claudia Horton
To: Kahn, Kevin@Coastal
Subject: CDP at Oceano Dunes
Date: Thursday, August 24, 2017 9:30:42 AM

Mr. Kahn,

I live on the Nipomo Mesa and it is my understanding that State Parks has submitted a request for a CDP to implement a very inadequate five-year plan for dust mitigation at Oceano Dunes SVRA, which includes more of the same ineffectual measures tried before.

I have two major concerns about the plan as it is proposed…

1. Fine particulate matter generated will not be reduced

2. Environmental degradation and destruction will continue

I understand that beaches have sand and that the coastal winds can carry that sand, but I have huge concerns with the very fine dust and particulates generated by the SVRA.

Have you been to the Mesa on a windy spring day? Or for that matter, been to the dunes and witnessed the scene? It's like the dust storms, 'haboobs', seen in the Middle East.

Miserable and unhealthy doesn't begin to describe the conditions for the residents in the area and the employees working on the dunes.

Those of us on the Mesa plan our days around the dust. Get up early before the wind picks up to do anything outside, then turn on the air purifiers (if you can afford one), close all windows and hunker down inside for the rest of the day. People with lung problems suffer exacerbated symptoms and serious health effects.

The Coastal Commission is obviously concerned about the preservation and protection of our beautiful coastal environment. The degradation and destruction seen at the SVRA is extreme, but not irreparable, as demonstrated in the Oso Flaco area where native plants and the lake are recovering since the riding area there was restricted. I believe that plants in the areas at SVRA that are fenced to reduce dust will regenerate and help the environment and the dust situation.

I don't want the SVRA shut down. The lobbying groups are strong and vociferous and it's a big money maker for the state…I get it.

I've been there with my kids and grandkids and it was quite an experience.

But I do think there is room for compromise, and a good beginning would be implementing the recommendations made by the San Luis County APCD and CARB before any permit is issued to State Parks.

These recommendations include:

1. The plan should not exclude highly emissive areas

2. Mitigation acres should be determined by CARB modeling & the APCD PMRP.

3. All vegetation planting for dust control should be in the most emissive riding areas.

4. The plan should include the ability to install perimeter fencing around highly emissive areas.

Thank you for your consideration,

Claudia Horton

1275 Trail View Place

Nipomo, CA 93444

August 25, 2017

District Supervisor
Central Coast District Office
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, California 95060

Re: The "Oceano Dunes Dust Issue"

Dear Mr. Kahn,

Thank you for the opportunity to comment on the Coastal Development Permit application submitted by the California Department of Parks and Recreation outlining the five-year plan for dust mitigation activities at the Oceano Dunes Sate Vehicular Recreation Area. My wife Heidi and I live in Southern San Luis Obispo County on the Nipomo Mesa, due east of the Oceano Dunes SRVA. We know you are aware of the problem and that you are of course familiar with written responses from San Luis Obispo County Air Pollution Control District (APCD) Officer Larry Allen and California Air Resources Board (CARB) Deputy Executive Officer Kurt Karperos concerning California State Parks recently proposed five-year program to control and minimize emissions of dust and particulate matter generated at Oceano Dunes SVRA. We support all four requirements Mr. Allen presented in his August 7th letter to you and we also support Mr. Karperos August 4th stated plan for CARB to work with State Parks and APCD using scientific insights to model a more comprehensive mitigation plan for controlling the fugitive dust emissions generated from the SVRA. We have included the following additional points we would like you to consider regarding this matter:

1. We supported Senate Bill 249 over Assembly Bill 1077 in its efforts to provide greater oversight over the Off Highway Vehicle (OHV) Division of California State Parks.

2. Dust being created and emanating from the Ocean Dunes SVRA has too long been a public health concern. State and federal standards for both PM10 and PM2.5 particulate matter (PM) are frequently exceeded. Between 2010 and 2015 there were 420 recorded exceedances of the CA PM10 standard.

3. The San Luis Obispo County Air Pollution Control District (APCD) undertook studies in 2004 and 2010 and concluded that OHV activity was a major contributing factor to high particulate matter in downwind residential communities – accounting for 75% of the days in which limits were exceeded.

4. The OHV Division has pursued, since 2011, an APCD approved Particulate Matter Reduction Plan but has not yet completed that requirement.

5. Management of the SVRA never prohibits vehicles on the sand dunes areas even on high wind days.

6. The APCD has issued numerous warnings of non-compliance, most recently May 5, 2017, noticing that it may proceed with enforcement actions. This stand-off has led to numerous lawsuits: environmental stakeholders have sued the OHV Division and user groups have sued the APCD.

7. On May 15, 2017, Mary Jean Sage, Chairperson of the San Luis Obispo County Health Commission, issued a letter to the SLO County Board of Supervisors regarding health impacts related to the elevated levels of Particulate Matter in the Nipomo Mesa/Oceano Dunes area. In her letter, Ms. Sage comments that after rigorous studies conducted by the APCD and other research organizations, the science demonstrates unequivocally a clear connection between OHV use on the dunes and the Nipomo Mesa residents' and workers exposure to serious health consequences from the dust emanating from the dunes. Strong scientific consensus holds that both short and long term airborne PM exposure cause serious lung and cardiovascular disease. The SLO County Health Commission recommends a vigorous response to this significant ongoing health risk and a rigorous review of the California State Parks proposed mitigation project, including public reporting.

8. According to U.S. EPA reporting, on some days during recent weeks air quality on the Nipomo Mesa has been measured to be the worst in the nation for hours on end. There is no excuse for this situation to continue!

For ten long years the residents living and people working on the Nipomo Mesa have been suffering from critically unhealthy air quality caused directly by the OHV use in the Oceano Dunes SVRA. To date, any and all attempts to mitigate the dangerously high levels of PM 10 and PM 2.5 particulates being generated from the Oceano Dunes SHRA have been unsuccessful. We can no longer abide the lame excuses and unfulfilled promises made to address this most critical of all issues, preservation of human health and wellbeing. Something must be done and done now. SB 249 is a good start in the process, but it only a start! As we look outside our window to the west, dust particulates are readily visible in the air as a light brown haze. Is it safe to be outdoors in such conditions? No sir it is not! It is not the dust you can see that worries us the most, but instead it is the finer particles of silica sand dust also present in the sand haze, particles not even visible to the human eye that are known to be responsible for causing silicosis and lung cancer. Mr. Kahn please do something to protect the citizens on the Nipomo Mesa now. Tomorrow may be too late. My wife and I thank for your time and consideration.

Sincerely,

Scott and Heidi DiSalvo
958 Sophie Court
Nipomo, CA 93444

From:	Rosemary Nelson
To:	Kahn, Kevin@Coastal
Subject:	Air Pollution on the Mesa
Date:	Thursday, August 24, 2017 11:59:37 AM

Commissioners:

As a resident of the Nipomo Mesa I have great concern over the proposed plan by State Parks to mitigate the dust from the Oceano Dunes riding area. For many years State Parks has employed ineffective measures to reduce the toxic plume emanating from the riding area. The reasons for this fiasco can only be attributed to some for of insanity as the same thing over and over and expecting different results can be none other.

The unfortunate consequence of State Parks failure has been that residents of the Mesa have suffered health consequences and a reduction in the quality of their lives from heavy exposure to PM10 and Pm2.5.

I am asking that the Coastal Commission take action to ensure that we have effective mitigation in place by the Spring of 2018. In particular I ask that the commission support the APCD's recommendation as follows:

1) The proposed project area should not exclude any highly emissive areas from consideration as locations for dust control.

2) The amount of acres of mitigation should be determined by the CARB modelling and APCD Particulate Matter Reduction Plan (PMRP) in compliance with the Coastal Commission requirements. Compliance with Rule 1001 is the goal

3) To protect public health in the most timely and cost-effective manner, ALL vegetation planting for dust control should occur within the most emissive riding areas shown in Attachments 2 and 3 of Larry Allen's letter.

4) The permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as shown in attachment 3 of Larry Allen's letter.

Rosemary Nelson
1928 Eucalyptus Road

From: Yvonne Williams
To: Kahn, Kevin@Coastal
Subject: SVRA Dust Control Plan
Date: Thursday, August 24, 2017 3:00:39 PM

Dear Mr. Kahn,

I am writing as a concerned citizen of the Nipomo Mesa in SLO County who is directly impacted by air quality problems that are exacerbated by wind blown dust from the Oceano Dunes riding area.

I understand there is a plan before the Coastal Commission seeking approval of a permit by State Parks to implement additional dust control measures at the Oceano Dunes. I fully understand and appreciate the need for scientific accuracy in the underlying data being relied upon to justify remedial actions. However I strongly urge the Coastal Commission not to delay further action to address our often serious air quality problems emanating from the Oceano Dunes while the proposed plan is reviewed and perfected. Our worsening air quality has persisted now for several years with no effective remedial actions taken. At times Nipomo has the worst air quality in the nation. Our air quality often exceeds federal standards particularly during peak daytime hours.

Please urge the members of the Coastal Commission to carefully consider the request from State Parks, but in the meantime while fine tuning that request and the data it relies upon, we urge you to direct more immediate action. There are a number of effective remedial actions that may be taken right away – including limiting access to the OHV area to the actual number of off-road vehicles allowed, not just to the number of trucks towing in multiple vehicles behind them. It is doubtful on any given day that State Parks monitors the numbers of actual vehicles operating on the riding area. Thus a single entry vehicle is counted, but it could be towing up to four or more OHVs behind it. Second we would encourage you to direct limits on, or curtailment of, OHV riding on those days where high winds are forecast or actually detected, as they tend to carry the Particulate Matter generated by OHV riding directly across the now highly populated Nipomo Mesa. And please also encourage SLO County to continue efforts towards developing a new formal agreement with State Parks concerning operation and management of

the OHV park. As you know the previous operating agreement expired several years ago. SLO County has a responsibility to their citizens to protect public health and safety, yet our pleas to address air quality impacts have gone unanswered. It is time for the Coastal Commission to step in and show leadership to address a serious health hazard that most certainly has far reaching environmental impacts on our coastline.

Thank you for your attention.

Yvonne Williams
Nipomo, CA

williams.yvonne.e@verizon.net

From: jpoc2x@aol.com
To: Kahn, Kevin@Coastal
Subject: Oceano Dunes Dust Control Program Proposal
Date: Monday, August 28, 2017 11:43:37 AM

Dear Mr. Kahn,

This is to strongly support the recommendations of the APCD and others for the proposed Dust Control Program on the Oceano Dunes.

As a downwind sufferer of the current situation, I am grateful that a concrete program is being initiated after so many years of ineffective or no action by State Parks. I realize the conflicts of values involved in this situation, but health and safety should be uppermost.

The specifics that I understand are to be considered seem quite reasonable and feasible:

1) The proposed project area should not exclude any highly emissive areas from consideration as locations for dust control.

2) The amount of acres of mitigation should be determined by the CARB modelling and APCD Particulate Matter Reduction Plan (PMRP) in compliance with the Coastal Commission requirements. Compliance with Rule 1001 is the goal.

3) To protect public health in the most timely and cost-effective manner, ALL vegetation planting for dust control should occur within the most emissive riding areas shown in Attachments 2 and 3 of Larry Allen's letter.

4) The permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as shown in attachment 3 of Larry Allen's letter.

These mitigation activities need to be carefully and completely implemented for significant relief.

I implore the Coast Commission to fully endorse and enforce the proposed plan.

Sincerely yours,

John P. O'Connell
1762 Blue Court
Nipomo, CA 93444-6623

From:	Janice Battaglia
To:	Kahn, Kevin@Coastal
Cc:	Janice Battaglia
Subject:	Comments to include in the dust control for Oceana Dunes
Date:	Tuesday, August 29, 2017 6:07:26 PM

Mr. Kahn,
Please consider the following when looking at the detrimental effects of the dust from the dunes for the environment, animals and individuals living near and in the surrounding areas. I have only lived here for one year and I am finding myself with respiratory challenges beginning.

1) The proposed project area should not exclude any highly emissive areas from consideration as locations for dust control.

2) The amount of acres of mitigation should be determined by the CARB modelling and APCD Particulate Matter Reduction Plan (PMRP) in compliance with the Coastal Commission requirements. Compliance with Rule 1001 is the goal

3) To protect public health in the most timely and cost-effective manner, ALL vegetation planting for dust control should occur within the most emissive riding areas shown in Attachments 2 and 3 of Larry Allen's letter.

4) The permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots" as described in Larry Allen's letter.

Thank you for your consideration with the above matters.

Janice Battaglia,
Concerned citizen and resident in Cypress Ridge

From:	JStrong739@aol.com
To:	Kahn, Kevin@Coastal
Subject:	Dust Control Program
Date:	Thursday, August 31, 2017 6:05:32 AM

Dear Mr. Kahn-

As a resident of the Nipomo Mesa I have been continually disappointed in our elected officials in mitigating the demonstrated dust problem we have there. There can be no doubt that the dust particulates coming from the ORV area are the source of the problem and are causing serious health issues. Obviously, supporters of the ORV area have the upper hand and our officials have put their interest ahead of the health of the residents living downwind from those dunes. It is time for public officials to do their job.

Thank goodness there are officials like Larry Allen. His recommendations are spot on and I support them. I hope the Costal Commission will too. We cannot let State Parks continue to ignore what is happening on the Mesa. It is time for the Costal Commission to take a stand and use its enforcement powers to resolve this heath issue.

Sincerely,

Joe Strong
Nipomo Mesa Resident

From: Ross Chenot
To: Kahn, Kevin@Coastal
Subject: Sept 14 Dust Mitigation Issue
Date: Thursday, August 31, 2017 9:49:59 AM

Members of the Coastal Commission:

As a resident of the Mesa in the area impacted by the dust from the OHMVR, please allow me to strongly encourage your action on behalf those living down wind. The significant health issues generated by the OHMVR are without scientific doubt. Also rather obvious is the reluctance of the OHMVR to take timely effective action to mitigate the dust that exceeds state standards multiple days/weeks a year.

Please help us! Larry Allen's letter strengthens the OHMVR proposal to an acceptable level. Your action on our behalf is greatly needed and appreciated.

Sincerely
Ross Chenot
2334 Brant St
Arroyo Grande CA

From:	Rosemary Cleaves
To:	Kahn, Kevin@Coastal
Cc:	Rosemary Cleaves
Subject:	The permit application and Dust Control Program
Date:	Thursday, August 31, 2017 11:49:39 AM

Mr. Kahn, I am a resident of Cypress Ridge on the mesa in Arroyo Grande. I support Larry Allen's position additions as follows:

1.The boundary of the proposed dust mitigation project area (Figures 2.8 and 2.9 in OHMVR,s CDP application) contains a substantial setback from shore and excludes some northern riding areas. Such boundary limits preclude some of the most emissive areas in the ODSVRA from consideration for dust controls, as shown in OHMVR,s own emissivity studies and on the GARB emissions modeling map (Attachment 1). Such exclusions are inappropriate without scientific evidence or modeling that demonstrates controls in these areas are not needed to protect public health. Thus, the proposed
project area should not exclude any highly emissive areas from consideration as possible locations for dust control.

2. The amount of mitigation proposed to be installed in a given year(40 acres of wind fencing and 20 acres of vegetation) is a self-imposed constraint by OHMVR that may not allow them to meet compliance with the emission reduction requirements of Rule 1001. Thus, the Commission approval process should consider the ability to install, in any given year, any amount of dust mitigation shown to be necessary by the GARB modeling and the APCD-approved PMRP, provided it complies with Coastal Commission requirements.

3. Studies conducted by the Desert Research Institute (DRI), under contract to OHMVR, have shown that vegetation is the most effective method of dust control; it is 90% - 99% effective at reducing sand flux, and is also the least costly control method over time,
providing permanent rather than seasonal emission reductions. OHMVR,s proposal to plant most of the new vegetation outside the riding areas is contrary to the data from the comprehensive scientific field studies performed by DRI at the ODSVRA, which clearly show the riding areas to be far more emissive than the nonriding areas (Attachment 2). Planting vegetation outside the riding areas would be substantially less effective in reducing dust emissions than planting within the riding areas, especially in the most emissive riding area zones. To protect public health in the most timely and cost-effective manner, all vegetation planting for dust control should occur within the most emissive riding areas shown in Attachments 2 and 3.

4. In addition to the ewind fencing arrays proposed in the CDP application, the list of appropriate dust control measures in the permit should also include the ability to simply install perimeter fencing around certain highly emissive "hot spots". As shown in Attachment 3, the temporary perimeter fencing installed around the Snowy Plover Enclosure to prohibit riding in that area during the nesting season appears to be highly effective at reducing sand transport while it's in place. such fencing could be installed
quickly and cheaply in specific high emission zones and begin providing dust relief while more comprehensive control measures were under development.