January 30, 2020

Memo: SAG Comments on the Oceano Dunes SVRA Particulate Matter Reduction Plan Revised Annual Report and Work Plan, Submitted 31 December 2019

From: The Scientific Advisory Group (SAG)

To: Jon O'Brien, California Department of Parks and Recreation
Liz McGuirk, California Department of Parks and Recreation
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Jeff Tupen, ECORP Consulting

Cc: California Air Resources Board (CARB)

Background
The Amended Stipulated Order of Abatement (SOA), issued by the San Luis Obispo Air Pollution Control District Hearing Board on December 9, 2019, required the California Department of Parks and Recreation (Parks) to submit an Oceano Dunes SVRA Particulate Matter Reduction Plan (PMRP) Revised Annual Report and Work Plan (ARWP), for the work period of August 1, 2019 to July 31, 2020. Parks submitted this Revised ARWP on December 31, 2019. The Amended SOA required the Scientific Advisory Group to provide a review of the Revised ARWP within 30 days of receipt.

SAG Review of Revised ARWP
Overall, the SAG is pleased with the Revised ARWP, which addresses many of our previous concerns. In particular, the Work Plan (Sec. 3) now includes an appropriate and concrete plan for dust mitigation activities in the coming year, including restoration of the full 48-acre foredune (Sec. 3.1.6). The appointment of a designated on-site project manager (Sec. 3.1.2) should help to streamline implementation of the dust emissions mitigation work. In addition, the Revised ARWP now contains useful updates on a consultation and evaluation process (Table 5-9), evaluation metrics (Exhibit 10), detailed planting schedule (Attachment 3), and proposed baseline process for assessing dust mitigation progress (Attachment 5).

Despite this progress, important work remains to be done in the coming months. This work includes initial planting for the 48-acre vegetated foredune, 4.2-acre permanent dust control, and 40-acre seasonal dust control. In addition, important scientific analyses, including updates to the Desert Research Institute (DRI) dust emissions model, performance of PI-SWERL dust emissivity mapping, and other improvements to the observational monitoring network, are critical for tracking progress toward reducing dust emissions. Regular reporting of performance and work metrics, including updates on planting and seed production, are critical for informing adaptive management to maintain steady progress toward dust mitigation goals.

All of these considerations inform SAG's recommendation on the current Revised ARWP, which is provided below.

SAG Conditional Approval of Revised ARWP

The SAG approves of the current Revised ARWP, with the condition that Parks submit an abbreviated Interim Report and Work Plan (IRWP), by March 31, 2020. This abbreviated IRWP need not constitute a full revision to the current Revised ARWP. Instead, the IRWP need only provide point-by-point updates on the following topics:

1. **48-Acre Vegetated Foredune.** Provide an update on establishment of the 48-acre foredune, as described in Sec. 1 of the Amended SOA and Sec. 3.1.6 of the current Revised ARWP. This update should describe progress toward obtaining CEQA and Coastal Commission approvals, as well as progress toward beginning the planting of native vegetation, as per the Amended SOA deadline of April 1, 2020 for such planting. This update should also describe design plans for establishing the new 48-acre vegetated foredune in a manner that approximates existing analogue foredune sites within Oceano Dunes SVRA.
2. **4.2-Acre Permanent Dust Control.** Provide a progress update on the 4.2-acre permanent dust control project described Sec. 3.1.6 in the current Revised ARWP. This project is also described in the "Initial Proposal for 2020 Dust Control Projects," which Parks submitted for review on December 31, 2019. As per SAG's comments on January 15, 2020, this progress update should include the following elements:
    a. Provide a justification for the choice of location for the permanent dust control. Alternatively, select and describe a substitute location for the 4.2-acre permanent dust control expected to achieve a greater dust control effectiveness than the currently designated location.
    b. Apply an up-to-date version of the DRI dust emissions model to evaluate the dust emissions reduction effectiveness of the proposed 4.2-acre permanent dust control. If the DRI model shows that the magnitude of dust emissions reduction is substantially lower than would have been achieved in the location designated in the Amended SOA, then Parks should also propose a remedy to bridge the gap toward achieving the desired total dust control effectiveness.
3. **DRI Dust Emissions Model.** Describe progress on updates to the DRI dust emissions model, including assimilation of SODAR data, dynamic downscaling, and validation runs, as described in Sec. 3.1.7 of the current Revised ARWP. Using this updated model and data inputs, perform analyses to determine expected reductions in dust emissions under current and planned dust mitigation treatments, as described in Sec. 3.2 of the current Revised ARWP. We encourage Parks to consider all ongoing dust mitigation treatments in these new model analyses, including the 4.2-acre permanent dust control, the 40-acre seasonal dust control, and the 48-acre vegetated foredune.
4. **PI-SWERL.** Describe progress on recent PI-SWERL campaigns to map dust emissivity, as described in Sec. 2.3.4 of the current Revised ARWP. In addition, provide a brief plan for future PI-SWERL campaigns.
5. **Information Gaps.** Describe progress on addressing gaps in information needed to assess fulfillment of SOA objectives, including: wind climatology analyses, calibration of MetOne particle profilers, unmanned aerial system (UAS) surveys, baseline topographic mapping, sediment budget monitoring, and the role of vehicle activity on PM10 generation. These elements are described in Sec. 3.1.9 of the current Revised ARWP.

6. **Particulate Matter Sources.** Describe progress on identifying relative contributions of all sources of particulate matter production and emission at Oceano Dunes SVRA, including geological, agricultural, biological, industrial, and marine sources. As discussed at its December 2019 meeting, the SAG sees the deployment of additional filter sampling as an effective method for identifying these dust sources. Based on initial filter sample analyses, describe plans for future campaigns to refine understanding of dust source contributions. These elements are described in Sec. 2.4.2 of the current Revised ARWP.
7. **Planting and Seed Product.** Provide an update on planting and seed production, as described in Attachment 3 of the current Revised ARWP. As the composition of species used for each of the treatments could be an important factor in successful vegetation establishment, effort should be made to incorporate proportional amounts of the most competent foredune species in each treatment, both as seeds and as container plants.
8. **Baseline Process.** Update (if necessary) and finalize the baseline process for assessing reductions in dust emissions, as described in Attachment 5 of the current Revised ARWP.
9. **Evaluation Metrics.** Provide updated values for the subset of Evaluation Metrics in Exhibit 10 for which the "Notes / Plan" column promises an update in March 2020. Among these metrics, it is critically important to define the performance and work metrics for evaluating foredune restoration progress.
10. **Implementation Schedule.** Provide brief updates on the completion of 2019-20 Work Plan elements described in Sec. 3 and shown as Implementation Schedules in Sec. 5. Provide explanations for significant deviations from the current implementation schedules.

SAG understands that some aspects of the particulate matter reduction work are beyond the direct control of Parks, including the timely approval of permits and the completion of certain scientific analyses. We encourage Parks to proactively communicate updates and needs; SAG in turn commits to performing requested scientific monitoring and analyses in a timely manner.

Conclusion

The SAG is pleased to be providing its conditional approval of this Revised ARWP at this time. We look forward to continuing to work cooperatively with Parks and the SLO Air Pollution Control District to achieve SOA goals for dust emissions reductions at Oceano Dunes.

Yours Sincerely,
The Scientific Advisory Group

Dr. William Nickling, Chair of SAG
Dr. Raleigh Martin; Dr. Ian Walker; Dr. Jack Gillies; Ms. Carla Scheidlinger; Mr. Earl Withycombe; Mr. Mike Bush