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DATE: June 13, 2000

TO: Coastal Commissioners and Interested Parties

FROM: Tami Grove, Deputy Director
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SUBJECT: **Oceano Dunes State Vehicular Recreation Area (ODSVRA):** Informational briefing on status of Coastal Commission review of carrying capacity study required by conditions of permit 4-82-300, issued to California Department of Parks & Recreation, to determine appropriate limits on day and overnight use.

STATUS REPORT

EXECUTIVE SUMMARY

In 1982, prior to certification of San Luis Obispo County's Local Coastal Program, the South Central Regional Coastal Commission issued coastal development permit 4-82-300 to the Department of Parks and Recreation (DPR) for the construction of entrance kiosks and placement of fencing along portions of the perimeter of ODSVRA and around isolated vegetation "islands" and wetlands in the dunes. This permit, including four subsequent amendments, addressed the number of users to be allowed in ODSVRA (Special Conditions 3.B, 3.D, and 6). Specifically, the coastal development permit was conditioned to limit overnight use and to require that "OHV day use will be limited to a specified number of users established in consultation with and agreement by the County of San Luis Obispo and the Executive Director of the Coastal Commission and the Department of State Parks."

In 1993 and 1994 the Commission reviewed compliance with this condition and found that there was insufficient information to be able to make a determination of what, if any, limits should be placed on the number of OHV day users. To provide the necessary information, the Commission required that the Department of Parks and Recreation prepare, in consultation with San Luis Obispo County and Commission staff, a carrying capacity study for submission to and approval by the Commission. The *Oceano Dunes State Vehicular Recreation Area Off-Highway Vehicle Day-Use Carrying Capacity Study*, subsequently referenced as the *Study*, has now been completed as a final draft (see Exhibit 3 for the Executive Summary).

The submitted *Study* describes how, through a combination of management measures (e.g., fencing, ranger patrols, dune restoration, user education) OHV impacts on ODSVRA's ecosystems are now confined to existing bare sand areas. The *Study* provides strong evidence that the balance between the vegetated and non-vegetated portions of the dune system is being maintained; there is an acceptable visitor safety trend; sanitation problems have been resolved;

traffic congestion within the community of Oceano has been minimized; and that non-OHV visitor use is not precluded. However, the submitted *Study* does not adequately define the ecological systems which are to be sustained, nor does it contain sufficient evidence to determine if, because of OHV use, adverse impacts are occurring in areas that might otherwise normally be vegetated dune or plover nesting areas. Impacts on some wet beach fauna, such as grunion are also not considered.

More important, though, while the submitted study is a significant analysis of current environmental trends at ODSVRA, it also reveals the difficulty in setting a proper fixed number limiting day use, in light of the dynamic nature of environmental management questions at the park. In particular, subsequent meetings among DPR representatives and Commission staff have resulted in the shared belief that a “carrying capacity” approach does not adequately address the dynamics of the different ecosystems that are present at ODSVRA, especially in light of an identified need for on-going studies that will address such questions as whether adverse impacts are occurring in areas that might otherwise normally be vegetated dune or plover nesting areas. For this reason, it is premature to accept the carrying capacity as the appropriate technique to successfully manage the natural resources of the area. Therefore, Commission staff, in concurrence with DPR, suggest that an alternative management technique be explored.

To this end, DPR has committed to submitting an application to amend permit 4-82-300 as a means of fulfilling the original requirements of this permit. Although the details are yet to be developed, the permit amendment will propose to establish an interagency/stakeholder Technical Review Team (TRT) for the ODSVRA, which would include a staff representative from the Commission, that will be responsible for providing on-going management recommendations to the Park Superintendent. The proposed amendment would also establish an *interim* limit on vehicle day use of 4,300 vehicles per day¹, including off-highway vehicles (OHVs), which reflects the maximum amount of OHV day use that the Department believes it can manage without significant degradation of coastal resources. This number also is supported by the current environmental analysis of DPR, at least as an *interim* limit pending further study. In this light, staff also would recommend that further research and monitoring be identified through the TRT process, to better determine actual impact thresholds, particularly with respect to ecosystem carrying capacity, and to develop a long-term adaptive management program. Currently staff anticipates providing a recommendation of the proposed TRT approach at the August meeting. In the meantime, staff will be working with DPR to refine the details of how the TRT process would work, including the conditions under which critical management decisions, such as adjustments to the allowable day use at the park, would be able to be reviewed by the Commission itself. Other provisions may include a mechanism to reevaluate the TRT approach after five years.

¹ The 4,300 day use vehicle limit may be exceeded only during four major peak season holiday periods (“bump days”) of Memorial Day, July 4th, Labor Day, and Thanksgiving.

I. BACKGROUND

A. Oceano Dunes Vehicular Recreation Area

Vehicles have been driven on the beach at Oceano for at least 70 years. Prior to the 1980s, vehicles were operated on the entire 16 miles of beach from Pismo Beach to the north to Mussel Rock in Santa Barbara County to the south. Now, street-legal vehicles are allowed on approximately five miles of the beach from Grand Avenue to the south and OHVs are restricted to about three miles of the beach, from a point one mile south of Pier Avenue to the southerly boundary of allowed OHV use, and on the dunes inland about two miles: the most southern and eastern portions are closed to vehicle use. The vehicular recreation area varies in width from a few hundred yards at the northern end to approximately three miles at the southern end. ODSVRA's 3,590 acres are comprised of sandy beach and sand dunes; about 1,500 acres are available for OHV use (see Exhibit 1).

Although the Department of Parks and Recreation acquired land for off-highway vehicle (OHV) use in 1974, and a General Development Plan was approved in 1975, DPR did not begin active management of Oceano Dunes State Vehicular Recreation Area (ODSVRA) until 1982. In that year, the California legislature explicitly authorized OHV Recreation Areas (Public Resources Code 5090 et seq.) and allowed existing off-highway motor vehicle recreational areas, facilities, and opportunities to be expanded and be managed in a manner "to maintain sustained long term use." The legislation requires DPR to operate ODSVRA in a manner consistent with adopted erosion control standards and wildlife habitat protection plans and allows facilities or portions of facilities to be closed either temporarily or permanently. The enabling legislation also provides for balancing of recreational and environmental factors, mandates a Commission composition of a variety of interest groups, and specifically allocates funding to both recreational and conservation projects. DPR has also noted that Public Resources Code Section 5090.43 is part of the mission and authority entrusted to State Parks in the management of State Vehicular Recreation Areas. This section states:

State Vehicular Recreation Areas shall be established on lands where topographic features and associated recreational opportunities for off highway motor vehicle recreation are the primary values. Areas shall be developed, managed, and operated for the purpose of making the fullest public use of the outdoor recreational opportunities present, and the natural and cultural elements of the environment may be managed or modified to enhance the recreational experience.

In 1982, DPR proposed the construction of entrance kiosks and placement of fencing along portions of the perimeter of ODSVRA and around isolated vegetation "islands" and wetlands in the dunes. On June 17, 1982, prior to certification of San Luis Obispo County's Local Coastal Program, the South Central Regional Coastal Commission approved coastal development permit 4-82-300 to allow DPR to construct entrance kiosks and fencing. This permit, including four

subsequent amendments, addressed the number of users to be allowed in ODSVRA (Special Conditions 3B, 3D, and 6).

In 1987, the OHV legislation was amended to include additional provisions for environmental protection, allowed for the temporary or permanent closure of areas that could not be adequately protected from erosion, and placed priority for implementation of the OHV program on a par with other Department of Parks and Recreation (DPR) programs.

B. Permit 4-82-300 Conditions

Three conditions of permit 4-82-300 are relevant to the action of determining condition compliance. Special Condition 3B, as amended, which applies to camping, states:

Beginning 4th of July weekend 1983, Beach camping within the Parks units shall be restricted to a maximum of 500 units with each unit available only through a reservation obtained through the State Parks Reservation system. Thereafter, admittance to the Park for purposes of overnight camping will be denied to individuals without a valid reservation unless vacant unreserved camping spaces are available.*

**One unit equals a campsite for a single camper vehicle.*

Special Condition number 3D, as amended, which applies to OHV day use, states in part:

On or before January 1983, the following will occur: OHV day use will be limited to a specified number of users established in consultation with and agreement by the County of San Luis Obispo and the Executive Director of the Coastal Commission and the Department of State Parks. OHV day use fees may be collected.

Special Condition 6 of the amended permit, which applies to both camping and OHV use, states in applicable part:

If, after an annual (or any other) review it is found that the ORV use within the SVRA is not occurring in a manner that protects environmentally sensitive habitats and community values consistent with the conditions of this permit and the County's Local Coastal Plan, then OHV access and the number of camp units allowed may be further limited by the Executive Director with concurrence by resolution of the Board of Supervisors of San Luis Obispo County. If the above reviews find that OHV use in the SVRA is consistent with the protection of environmentally sensitive habitats and community values, and/or that additional staff and management revenues become available to the DPR, levels of OHV access and the allowable number of camp units may be increased not to exceed the enforcement and management capabilities of the DPR by determination of the

Executive Director with concurrence by resolution of the Board of Supervisors of San Luis Obispo County.

In 1991, DPR requested that the Executive Director increase the number of allowed camping units from 500 to 1,000. On June 14, 1991, the Executive Director approved the increase, subject to concurrence by the San Luis Obispo County Board of Supervisors. On October 1, 1991, the Board of Supervisors concurred with the Executive Director's action and the increase became effective. On May 18, 1993, the Board of Supervisors, by letter to the Executive Director, requested a decrease in the number of camper units to 500 with a camper unit defined as "a maximum of 2 self-propelled vehicles along with whatever additional vehicles they have towed to the site."

The action by San Luis Obispo County requesting a decrease in the number of camper units after several public hearings, along with the controversial nature of this matter, resulted in Coastal Commission review of coastal development permit 4-82-300 for condition compliance.

On March 16, 1994, the Commission held a public hearing on the matter of condition compliance for Coastal Development Permit #4-82-300. DPR's Off-Road Vehicle Division had agreed at that point to perform a capacity study. The Commission formalized this agreement by voting to:

1. *Require the California Department of Parks and Recreation to perform and submit a carrying capacity study so that appropriate limits can be determined for day use and overnight use, as required by Coastal Development Permit No. 4-82-300 conditions #3 and #6 ... [The] scope of study ... will cover counting of all day time uses and users ... and type and number of vehicles. In addition, there will include a survey of infrastructure constraints ... and environmental and user conflicts/constraints.*
2. *Approve the 1,000 vehicle limit for overnight camping purposes at Pismo Dunes State Vehicle Recreation Area, consistent with the County's recommendation. This limit will be in effect until the completion of the carrying capacity study.*

The Findings adopted in support of this action clarify that this study "...will be used as a guideline to determine the appropriate limits on day use, OHV use, and camper units at a Commission Meeting subsequent to submittal of the final report...". In conclusion, as of 1994, there was no official limit on the number of day users in the park, and overnight use was restricted to 1,000 vehicles plus whatever off-highway vehicles were towed into the park by these vehicles.

II. OCEANO DUNES STATE VEHICULAR RECREATION AREA OFF-HIGHWAY VEHICLE DAY-USE CARRYING CAPACITY STUDY SUBMITTAL

Since 1994 DPR, in consultation with Commission staff, has prepared and submitted (in 1998) a Final Draft *Oceano Dunes State Vehicular Recreation Area Off-Highway Vehicle Day-Use Carrying Capacity Study*. As described by DPR, a primary purpose of the *Study* is to establish a rational basis for restricting OHV day use "to a specified number of users," as required by Special Condition 3D of Coastal Development Permit 4-82-300. Pursuant to the Commission's 1994 action, OHV day use currently is not limited except in the vegetated dune areas, where no OHV use is allowed. However, the approved State Parks General Plan for the ODVSRA sets a day use limit of 4300 vehicles, including OHVs (many of the vehicles that enter the park are not OHVs but rather sedans, motor homes, and pickup trucks). Overnight camping was limited to 1,000 vehicles until the completion of the carrying capacity study; however, the *Study* does not directly address the number of overnight users at the park.

It is important to recognize that in its stewardship role, DPR has also undertaken considerable proactive management measures to protect sensitive species and habitat in the park. Such activities include working with other agencies such as the U.S. Fish and Wildlife Service in pre-permit actions to establish snowy plover and least tern nest protection measures. New monitoring systems have also been developed and implemented that will play an increasingly important role in on-going management of the Park.

A. Carrying Capacity Background

As discussed, the Commission's 1994 review of State Parks' compliance with conditions #3 and #6 of permit 4-82-300 required that the Department perform and submit a "carrying capacity" study so that appropriate day use and overnight limits could be determined to meet these original permit conditions. As in the original permit, the Commission's primary concern was with the impacts of OHVs to environmentally sensitive habitat; the infrastructure capacity of the ODVSRA; and user group conflicts (e.g. pedestrian safety).

The term "carrying capacity" generally refers to the size of a population that can be sustained by an environment or system indefinitely. The carrying capacity of a system is a *threshold* number. If surpassed, the healthy functioning of the system will be diminished or the system may even collapse. Although often thought of as an ecological concept, carrying capacity is also relevant to social systems, such as urban infrastructure or recreational systems, including the ODVSRA.

Ecological carrying capacity analysis typically requires a general baseline definition of the ecological system to identify a capacity. However, ecological systems are typically not static but rather dynamic, and often comprise multiple and related subsystems. This means that the carrying capacity of a system may vary depending on the baseline conditions that are assumed in an analysis. For example, the Oceano Dunes complex is actually composed of at least four major and distinct ecological systems (wet beach, barren sands, vegetated dunes, and freshwater ponds and streams) that, over time, have fluctuated depending on various ecological and human

disturbances. Thus, there would no doubt be a significant difference in carrying capacity analysis were different baseline conditions assumed (for example, between the pre-European Oceano dunes system and the dune system existing when the Coastal Act was adopted). Even without human interventions, it is difficult to specify a fixed carrying capacity number for any given disturbance.

B. Analysis of State Parks Submittal

The DPR *Study* proposes 4,300 vehicles as the OHV day use “carrying capacity” of the ODSVRA. Although the submitted *Study* does not include a particular definition of carrying capacity, the 4,300 figure was first derived through a carrying capacity analysis done for the 1975 General Plan. The figure was based primarily on *recreational* capacity analyses from other State Park units, with particular focus on the appropriate threshold number of vehicles that would maintain a beneficial visitor experience. It was not based on a comprehensive ecological analyses of the Oceano dunes environment in relation to the appropriate number of OHVs. However, the Department of Parks and Recreation (DPR) concluded that the 4,300 figure would not have any adverse effects, based on the results of data collection and data interpretation concerning visitor types, interaction and compatibility of uses, visitor safety, sensitive natural resources, air quality, and sanitation and traffic impacts on the local economy.

On the whole, the submitted carrying capacity study documents the success of OHV mitigation measures undertaken by DPR and provides valuable information and conclusions that hitherto were either unknown or not available in one document. The *Study* presents evidence that the various management measures such as area exclusions and fencing prevent significant degradation of sensitive vegetation that stabilizes the dunes and prevents their wind-driven encroachment on adjacent wetland habitats, farmlands, and developed areas. The *Study* also asserts that DPR's present ranger force, educational program, and facility design is adequate to preserve defined habitats at their present level of quality, if OHV day use does not exceed 4,300 vehicles per day (other than the occasional high use period on holiday weekends).

The submitted carrying capacity study contains much valuable information, especially regarding steps that have been taken to mitigate for recreational impacts. These mitigations include fencing of vegetated islands, fencing of snowy plover and least tern nests, and revegetation of areas now closed to OHV use. The submitted *Study* implicitly assumes that there are no recreational impacts from OHV use because of the mitigation measures undertaken by DPR since 1982. In part, this stems from the fencing undertaken pursuant to permit 4-82-300. The location of the fencing, what areas should be fenced, involved input from DPR, Fish and Game, and Commission staff. While the location of the initial fencing did not necessarily mean that there might not be other areas that could be considered sensitive upon review and analyses of additional information, the findings of permit 4-82-300 do not indicate that additional areas beyond those identified at that time were considered “sensitive.” Nonetheless, there may be additional sensitive areas, such as unvegetated dunes or the wet sand area that have not been investigated. OHV use on presumably already-barren dune is not treated as an adverse impact.

There is little doubt that DPR's management policies have enhanced the vegetation island habitats originally identified as sensitive by excluding OHVs from those areas. Similarly, by excluding OHVs from plover and tern nesting sites, DPR has enhanced the viability of those species. However, information is lacking regarding impacts to other potentially sensitive habitats such as the wet sand area (clams, etc.), and nonvegetated dune areas that function as, for example, Snowy Plover habitat. There is also on-going monitoring and management work taking place with respect to such sensitive species as the Snowy Plover. Thus, the U.S. Fish and Wildlife is currently in the midst of Habitat Conservation Planning with DPR.

More important, while the submitted study is a significant analysis of current environmental trends at ODSVRA, it also reveals the difficulty in setting a proper fixed number limiting day use, in light of the dynamic nature of environmental management questions at the park. In particular, subsequent meetings among DPR representatives and Commission staff have resulted in the shared belief that a "carrying capacity" approach does not adequately address the dynamics of the different ecosystems, or the wide array of recreational management issues, that are present at ODSVRA, especially in light of an identified need for on-going studies that will address such questions as whether adverse impacts are occurring in areas that might otherwise normally be vegetated dune or plover nesting areas. For this reason, it is premature to accept the carrying capacity as the appropriate technique to successfully manage the natural resources of the area. Therefore, Commission staff, in concurrence with DPR, are suggesting that an alternative management technique be explored.

III. ADAPTIVE MANAGEMENT AND A TECHNICAL REVIEW TEAM

Concurrent with the submittal of the Carrying Capacity Study, DPR proposed, and the San Luis Obispo County Board of Supervisors endorsed, the formation of Technical Review Team (TRT) to assist the Superintendent of the ODSVRA with on-going park management (see Exhibit 2 for Board of Supervisors Resolution). Rather than establish a fixed number for day and night use, the TRT would be part of an adaptive management process that would oversee on-going monitoring of both environmental and use trends in the Park for the purpose of supporting decisionmaking about such things as total day use in the park. Such a process would allow for adjustments, based on what we learn over time, in not only the allowable use limit, but other critical management concerns of the park as well. Sometimes referred to as adaptive management, this approach provides a procedural framework for responding to changing environmental conditions and increases the overall success of management activities.

A. What is Adaptive Management?

Adaptive management is a systematic process for continually improving management policies and practices. Essentially information is gained and management activities are modified by experience. This is an emerging approach to resource management because it allows participants to accommodate the uncertainty and complexity of overall ecosystem management, while improving our understanding of ecosystem responses, thresholds and dynamics. It may not

always be completely clear how to achieve given objectives, but throughout the management process, reliable feedback may be gained about the effectiveness of alternative policies and practices.²

In the case of Ocean Dunes, it is clear that we have learned a great deal about dune systems, habitats, and sensitive dunes species since the original permit that led to the fencing of vegetated areas. In addition, while the DPR study provides significant environmental baseline data, this data also highlights the importance of continuing such data collection and monitoring to provide for on-going assessment of management actions, planning, etc. to address changing circumstances in the ODSVRA environment. These questions, though, are not fruitfully addressed through the establishment of day use number except inasmuch as this number is understood to be appropriate in light of current information. A fixed carrying capacity is simply too static to adequately adjust to the needs of a changing environment. Nor does it allow for necessary adjustments as more information becomes available and we continue to gain a better understanding of the complex system in which we are working.

Adaptive management also allows for more subtle and comprehensive environmental management by focusing on early identification of undesirable trends and providing the guidance, through experimentation, necessary to determine the appropriate remedial action to reverse an undesirable trend. For example, Commission staff have identified a number of issues of particular importance as potential initial tasks of an adaptive management approach. These include but may not be limited to 1) completing a shorebird impacts study; 2) establishing a study plot for research on successional events in dune stabilization; 3) assessing motor vehicle fluids contamination; 4) initiating an Arroyo Grand Creek vehicle crossing study; and 5) improving the retrophoto baseline archive. These environmental management issues for the ODSVRA are not addressed by the simple mechanism of establishing a day use limit.

Overall, adaptive management appears to be very appropriate in this particular regulatory situation because rather than establishing a specific limit of users within the park, adaptive management leaves open the possibility for subsequent changes to data collection, program evaluation, and management reaction as new information is discovered over the long-term. Any changes in actual use limitations would follow from this on-going systematic monitoring and management approach. More generally, Commission participation in an on-going adaptive management approach will allow for better balancing between the Access, Recreation, and Sensitive Habitat policies of the Coastal Act over time. Finally, adaptive management through something like a TRT more appropriately recognizes that the recreational uses of the ODSVRA are established by state legislation, and that the management challenge is how to balance this legislatively sanctioned activity with on-going and dynamic environmental management concerns.

² It is important to keep in mind that the impact of many management activities can be assessed reliably only over the long term. Therefore, all aspects of adaptive management must be designed to accommodate the potentially long time frame. The adaptive management approach includes such steps as 1) problem assessment; 2) design; 3) implementation; 4) monitoring; 5) evaluation; and 6) adjustment.

B. Establishment of A Technical Review Team

The purpose of the Technical Review Team (TRT) is to assemble a group of stakeholders who will actively participate in the adaptive management process and provide recommendations to the Superintendent of the ODSVRA. To this end, DPR will commit to use, absent compelling reasons, the recommendations made by the TRT.

In regard to the establishment of the TRT, the role of the Department of Parks will be to provide the Team with the necessary monitoring data and background information to objectively review, understand, and analyze the status and effectiveness of various management programs. Additionally, DPR will ensure that the composition of the TRT adequately represents the various agencies and groups involved in the management of both the recreational and environmental aspects of the park. For example, the TRT may include a member from each of the following entities:

- 1) San Luis Obispo County
- 2) California Coastal Commission
- 3) OHV Commission
- 4) U.S. Fish and Wildlife
- 5) California Department of Fish and Game
- 6) Local elected official (i.e., from the "5 Cities")
- 7) Civic community (e.g., Chamber of Commerce, etc.)
- 8) OHV user community (not an OHV manufacturer representative)
- 9) Environmental community

Although all the necessary details of the TRT have yet to be worked out, it is anticipated that the group will maintain correspondence and will meet at least twice a year in order to evaluate the monitoring results and to reevaluate monitoring protocols, develop recommendations to DPR regarding additional monitoring focuses and management strategies, provide oversight review for the various research studies, and assist DPR in the development of annual reports. In addition, based on the results of ongoing research studies, the TRT will advise the ODSVRA Superintendent regarding changes in the limits of day use and overnight camping in the park.

As mentioned, issues of particular importance have been identified as potential initial tasks of the TRT. These include but may not be limited to 1) completing a shorebird impacts study; 2) establishing a study plot for research on successional events in dune stabilization; 3) assessing motor vehicle fluids contamination; 4) initiating an Arroyo Grand Creek vehicle crossing study; and 5) improving the retrophoto baseline archive. It should be noted, however, that the TRT may also identify and effect the investigation of any other item that is reasonably shown to be related to the carrying capacity and ongoing management of the SVRA.

As stated previously, the main function of the TRT is to assemble a group of stakeholders with an interest in effective resource management of the park that will have an advisory role to the Park Superintendent. Each member of the TRT will have an equal ability to propose studies and gather additional information to formulate a group recommendation; however, consensus among

the TRT members will be necessary in order to make a final recommendation to the Superintendent. Additionally, a mechanism will be put into place which allows issues related to carrying capacity and other sensitive management issues to be elevated unilaterally by County staff to the Board of Supervisors, and unilaterally by Coastal Commission staff to the Coastal Commission, for review and action. This action by either the County or the Coastal Commission staff will be reserved for those issues and concerns which can not be resolved by the Department of Parks and Recreation via the TRT process.

As of this writing, DPR and Commission staff have discussed a TRT process involving the preparation of annual reports outlining objectives accomplished, results of field examinations and monitoring programs, and recommended actions for the future. In addition, every three years, the TRT will evaluate the larger subject of resource management and provide information regarding alternative strategies, if necessary. Lastly, staff is currently discussing with DPR inclusion of a five-year review mechanism of the overall effectiveness of the Technical Review Team. Staff anticipates meeting with DPR in the next few weeks to further discuss the details of the TRT, in order to prepare a staff report by July 20th for the August Commission meeting.