MacKerricher State Park Dune Rehabilitation Project

<u>Summary Responses to Comments</u>

The Mendocino District received 41 comment letters during the public comment period for the Ten Mile Dune Rehabilitation Project at MacKerricher State Park. Eight letters were from agencies, four were from organizations, and twenty-nine were from individuals. Comments pertinent to the Initial Study/Mitigated Negative Declaration differed based on the stated expertise of individuals or the focus of particular agencies.

Positive comments in support of the project generally fell into four main categories: 1) benefits to sensitive species and natural ecosystems, 2) project plans based on best available science, 3) that short-term impacts would be mitigated to a less than significant level, and 4) consistency with Natural Preserve classification. Comments in opposition to the project fell into five main categories: 1) inconsistency with the MacKerricher State Park General Plan, Mendocino County Local Coastal Plan and California Coastal Act, 2) potential loss of recreational opportunity, 3) potential impacts to sensitive species and habitats, 4) potential impacts to neighboring properties from sand movement, and 5) potential impacts to cultural sites. All comments proclaiming the beneficial effects of the project on sensitive species and habitats were from the regulatory agency having jurisdiction over the species or science-based organizations.

Response to comment letters from agency with jurisdictional authority over coastal access and individuals with subject specific scientific expertise in geology and archaeology have been prepared separately, and are contained within this Final MND. All other responses to comments are summarized below under specific categories.

1. <u>Biological Resources</u>

   Twenty-one comment letters mentioned one or more of the biological resources (e.g., listed plant species, western snowy plover, wetlands); seven said the project would have beneficial results and fourteen raised concerns regarding project impacts. None of the letters that raised concerns regarding potential impacts to biological resources were based on or cited scientific evidence. The letters that recognized the proposed project's beneficial effects included those from the agency with jurisdictional authority over listed species, California Department of Fish and Game, and the environmental organizations that are most concerned with plant and animal protections, Audubon Society, Sierra Club, and the California Native Plant Society.

   Federal and State Listed Plants

   Comments concerning significant impacts to listed plants incorrectly assumed finite populations in an unchanging environment. However, coastal dune ecosystems, including their associated plant populations, are dynamic and constantly changing. As explained on page 64 of the IS/MND and in Appendix E.2, the listed plants are adapted to and have evolved under changing environmental conditions. Population numbers, especially those of annual or short-lived perennial dune species, can fluctuate dramatically from year to year,

as weather patterns and sand movement affect seed dispersal patterns, seed production, and seedling survival. This is the existing condition of the Ten Mile Dunes. As shown in Appendices A.3 and A.4, the area mapped as occupied by Howell's spineflower within the Natural Preserve in 2001 was 0.41 acres; in 2011 the mapped spineflower area totaled 8.9 acres. Regarding Howell's Spineflower (*Chorizanthe howellii*), one of the comment letters included unsubstantiated recommendations that the environmental document "state what percentage of seed typically germinates into mature plants", and include "Data to illustrate how many annual generations of plant lifecycle it will take for the post-project population levels to reach their pre-project population level". Again, this recommendation incorrectly assumes finite, unchanging populations from year to year. Another letter incorrectly stated that project "activities will destroy 11% of the endangered spineflower population" (the proportion of area occupied by spineflower in 2011 that occurs within the haul road corridor). As stated in the document on pages 90-91, scientific studies on sea level rise and documented evidence of past storm surge events show that the long-term viability of the nominal "11%" of the spineflower population in the road alignment is very low (with or without project implementation) because it is located immediately behind an active foredune and shoreline that is actively transgressing landward in a location that in the long-term, is unable to provide stable dune habitat for spineflower. Through this project, State Parks proposes to remove unnatural elements where the listed plants cannot grow, which is on the haul road or within European beachgrass clumps, and to mitigate at a ratio of 8 to 1 to compensate for any potential loss of those plant populations that were mapped in 2011. In addition, this project proposes permanent monitoring and restoration efforts that will extend well beyond the typical 5 year required monitoring period (Appendix E.2), and includes consultation and coordination with the California Department of Fish and Game and the US Fish and Wildlife Service.

Western Snowy Plover

Comments concerning potential impacts to the western snowy plover were not as specific, primarily stating that impacts would occur during project implementation. Pages 23 and 24 of the IS/MND describe detailed project requirements under BIO-7d that are specifically intended to prevent impacts to plovers during project implementation. As described and illustrated on pages 5, 36, 55-56, and 69 of the IS/MND, the removal of the haul road and European beachgrass will open up additional nesting and foraging habitat for plovers. Unnatural barriers will be removed that now prevent plovers from retreating to safe areas during high tides or when disturbed by humans and dogs.

Wetlands

Comments that raised concerns regarding potential impacts to wetlands, including the Inglenook Fen, incorrectly assumed that the dune and wetland complex of the Natural Preserve is a fixed, unchanging environment and that the wetlands are dependent upon this current fixed environment. As discussed on pages 4, 5, 35, 60, 73, and 90 of the IS/MND, the culverts currently constrict the

outlets of the creeks, causing incised, relatively deep channels. Sand movement resulting from the removal of the haul road, culverts, and European beachgrass will not eliminate wetlands in the Natural Preserve, rather some wetland features will be buried, while others will emerge through natural processes. Removal will allow the channel outlets to meander naturally, with wetland vegetation forming where suitable based on hydrology and substrate. This is not an impact that should be mitigated, rather an objective of the project to restore natural processes. Also as explained on pages 98-102 in the IS/MND, Inglenook Fen is a natural feature that formed approximately 6,000 years ago; removal of the culverts, which are modern features, will not impact the fen.

2. Consistency with MacKerricher State Park General Plan, Mendocino County Local Coastal Plan, and California Coastal Act

   Eight letters raised concerns regarding consistency of the project with the MacKerricher State Park General Plan, Mendocino County Local Coastal Plan, or the California Coastal Act in regards to recreational interests. Two letters claim that the project is consistent, primarily based on the Natural Preserve classification of the unit in which the project is proposed. As explained in detail in the response letter to Coastal Commission staff (included in the final MND), and on pages 4, 104, and 105 of the IS/MND, the overarching management of the Inglenook Fen-Ten Mile Dunes Natural Preserve, which contains the entirety of the project, is determined by the unit classification as defined under the Public Resources Code. As explained on page 122 of the IS/MND, a feasibility study conducted in 2000 determined that plans to reconstruct and maintain the haul road, which were described in the MacKerricher State Park General Plan (1995), were infeasible and incompatible with the Preserve classification. Pages 35, 104, and 105 of the IS/MND describe how the project is consistent with the General Plan. No sections of the Coastal Act or Mendocino Local Coastal Plan were found to be inconsistent with the proposed project, including sections that address coastal access. Rather, numerous sections of the Coastal Act support the project's emphasis on restoration and protection of Environmentally Sensitive Habitat Areas. Starting on page 36 of the IS/MND, additional information and specific citations of sections of the Local Coastal Plan have been added to further demonstrate project consistency. Although page 115 of the IS/MND describes how coastal access to the beach is being retained, in response to the letter from the Coastal Conservancy, a revised project overview map has been prepared and replaces Appendix A.1 for inclusion in the Final MND. The revised map more clearly shows how the east-west alignment of the haul road will be retained at the northern end of the Preserve to connect to a trail leading to the beach. No changes are proposed to the existing coastal access that leads to the beach at the southern end of the Preserve, north of Ward Avenue.

3. Recreational Use of the Haul Road

   Sixteen letters commented on the recreational use of the haul road, while three letters commented that the haul road was not important for recreation and instead was an impact to sensitive resources. Many of the letters favoring the

retention of remnant sections and/or reconstruction of the haul road referred to it as providing important access for bicyclists, people in wheelchairs, and people with strollers. No letters stated that the authors or others have used the haul road for these purposes in recent decades. As described in text and photos on pages 6-9, 79, and 115 of the IS/MND, the haul road no longer serves as a contiguous trail, since nearly one mile is completely washed out and much of the remaining approximate two mile sections are either dangerously eroded or partially covered with sand. To address current recreational use on the haul road within the Natural Preserve, CSP staff compiled data from site surveys and anecdotal information from staff and volunteers that frequent the Preserve. As shown in the added Appendix E.6, between March and August, 2012, only about 3% of the visitor use observed within the Natural Preserve occurred on the haul road. Surveys were conducted at weekly intervals as part of a plover survey program; visitor use and location was one of the required elements for survey documentation. Park staff and volunteers that have regularly conducted activities within the foredunes for nearly a decade, attest that people with strollers and bicyclists do not use the haul road in the Natural Preserve. The maps included in Appendix E.6 (MacKerricher State Park Dune Rehabilitation Haul Road Condition) show the current haul road condition and the 2003 documented topography of the foredunes in the vicinity of the road.

4. <u>Sand Movement and Potential Impacts to Neighboring Properties</u>
Seventeen letters raised concerns regarding the potential for increased sand movement and threat to neighboring properties as a result of project implementation. The concerns focused on three major incorrect assumptions: 1) the remaining sections of haul road prevent sand movement from the beach to inland areas; 2) sand movement within a dune system is “erosion” and the dunes should be stabilized; and 3) the project will result in a significant change in sand movement, which would not occur if the project was not implemented. As explained throughout the IS/MND on pages 13, 50, 84-87, and Appendix E.4, sand movement is an integral function of a natural dune system. Grain size, wind speed, vegetation, and dune height are factors that affect the rate of sand movement. In general, once the haul road is removed, the small nearshore dunes would collect more sand and continue to grow, most likely around small clumps of vegetation, until some threshold size is reached. The movement of sand from the nearshore foredunes to farther inland areas is inhibited by the large expanses of dune and wetland vegetation that occur between the foredunes and the separated transverse dunes to the east. While wind-transport of sand is a natural process in a dune environment, sand becomes deposited and its movement halted on the eastern fringes of dunes where conifers are established. The past removal of wooded areas backing the eastern edge of the Ten Mile Dunes, <u>by adjacent landowners</u>, has provided an uninterrupted path for wind-carried sand and the landward expansion of the dunes in the Preserve (Barry & Schlinger 1977). The project includes measures to maintain and plant native trees on the eastern fringe of the dunes to reestablish a native dune forest that will interrupt the path of wind carried sand. As stated on pages 13-14:

"European beachgrass, Monterey pine, broom, and eucalyptus growing in the 7 acre area will still be removed, but as a secondary priority and slowly over time once the native trees are well established" (emphasis added). Page 90 of the IS/MND explains that sea level rise will continue to influence the inland movement of the dune system, which will affect the Natural Preserve and neighboring properties, regardless of any activities associated with the Dune Rehabilitation Project.

A more detailed discussion of dune movement process within the Natural Preserve is contained in Dr. Peter Baye's response to the letter from the retired College of the Redwoods geology professor.

5. Potential Impacts to Cultural Sites

Ten letters commented that the project would impact cultural resources, either archaeological sites or the haul road. Only two of these commenters were professional archaeologists. As described on pages 74-83 in the Cultural Resources section of the IS/MND, and in the detailed responses prepared by Dionne Gruver for the letter to Thad Van Bueren, the project is designed and contains specific requirements to avoid direct impacts to cultural sites. The existing unnatural features of haul road and European beachgrass have altered natural sand movement, and in some areas, caused archaeological sites to be exposed. The project as proposed will not increase impacts to cultural sites, but will in areas reduce impacts that are occurring as a result of the unnatural features. For example, deflation plains caused by the road berm have exposed archaeological sites immediately inland of the berm; removal of the road may result in the reburial of these sites as mobilized sand from the foredune moves inland. Removal of the road will discourage easy access to some of the archaeological sites, and reduce the potential for theft of sensitive artifacts. As determined through formal evaluation and consultation with the State Historic Preservation Officer, the haul road is not a significant historic resource as its condition has deteriorated substantially.

6. Other Comments

Other comments not included in the discussion above for which explanations are given below, or additional text is added to the final MND include:

1) City of Fort Bragg's project – The description of the Fort Bragg Trail and Restoration Project, which includes the development of over 3.25 miles of new multiple use trails adjoining and south of MacKerricher State Park has been added to **Section 2.11 Related Projects.**

2) Suggested preparation of an EIR – Page 42 of the IS/MND describes the level of environmental documents required under CEQA. Based on extensive survey work and careful project design planning, specific project treatment measures and mitigations were developed so that project work will not cause

a substantial adverse change to the significance of the resources (CEQA Sec. 21084.1.) and as such, an EIR is not warranted.

> *CEQA Guidelines (Section 15065 (b) (1): Where, prior to commencement of public review of an environmental document, a project proponent agrees to mitigation measures or project modification that would avoid any significant effect on the environment specified by subdivision (a) or would mitigate the significant effect to a point where clearly no significant effect on the environment would occur, a lead agency need not prepare an environment impact report solely because, without mitigation the environmental effects at issue would have been significant.*

3) Concern regarding the hauling and disposal of road material – Page 7 of the IS/MND describes hauling to, and disposal of the road material at the Big River quarry site, approximately 20 miles to the south of the project. Pages 92-94 describe the calculated emissions associated with the road removal and material disposal based on hauling to the Big River quarry site for a maximum of 21 days. However, since preparation of the IS/MND, a second disposal site has been identified that is approximately 5 miles from the project area, and located on private property within the Ten Mile watershed. The alternative disposal site consists of ranch and timber roads that are in need of surface rocking. Disposal at the alternative site would also prevent the need to haul on Highway 1, as a paved, existing private road connects to the project area beneath the Highway 1 bridge. Use of this alternative disposal site will further reduce emissions and temporary impacts to recreational use along the Big River haul road. A Non-industrial timber management plan (1-94NTMP-002 MEN) is in place to address the environmental requirements associated with rocking the roads on the adjacent private property. Description of the alternative disposal site has been added to the final MND.

4) One comment raised concerns that a disposal site had not been identified for vegetative material. Appendix E.1 and page 10 of the IS/MND describe how vegetative material and sand will be temporarily stockpiled, then reused within the project area. No vegetative material will be removed from the project area.

5) Comments from the Mendocino County Air Quality Control District focused on the need to address potentially occurring natural asbestos, a water source for dust abatement, and access to the project site for review. Pages 31 and 36 of the IS/MND acknowledge the need for consultation and permitting through the Air Quality Control District to address these concerns. Consultation has been initiated and an offer to the District for a site review prior to and during project implementation has already been extended; there will be no restrictions on access for permitting agencies throughout the duration of the project.

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November 26, 2012

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RE: Initial Study/Draft Mitigated Negative Declaration
Inglenook Fen – Ten Mile Dunes Natural Preserve,
MacKerricher State Park Dune Rehabilitation Project

Dear Mr. Van Bueren:

Thank you for your comments during the public review period for the Initial Study/Draft Mitigated Negative Declaration (MND), MacKerricher State Park Dune Rehabilitation Project. To date, State Parks has received comments from you as a professional archaeologist (dated August 14, 2012) that raise concerns regarding potential environmental impacts, and separate comments forwarded from you as an individual or as Chairperson of the Westport Community Advisory Council (dated September 16, 2012, August 5, 2012, August 10, 2012, August 27, 2012) that advocate for the development of a bicycle trail through the Natural Preserve.

Your comments concerning the cultural resources in the project area are addressed below in responses 1-6 to answer questions and concerns pertaining to archaeology. Your comments concerning natural resources and trail development are addressed below in responses 7 and 8.

1. *In your letter you suggest that the "IS/MND focuses solely on avoidance of direct impacts to the exclusion of other predictable long term consequences that will result from project implementation including erosion, deflation, and inundation."*

   Your determination that long-term impacts not identified in the IS/MND would occur, including erosion, deflation, and inundation, is incorrect. The California State Parks professional staff (staff) consulted on this project is familiar with dune system ecology, have conducted three dune restoration projects that involved the removal of European beach grass and understands the ecological processes once this invasive species is removed. This understanding of dune ecology, and each of the archaeological resources recorded in the Area of Potential Effects (APE) in the Inglenook Fen – Ten Mile Dunes Natural Preserve with their current conditions leads to the opposite conclusion, that the project has the potential to reduce erosion, deflation, and inundation currently caused by unnatural features that influence dune processes. Currently, these significant conditions are pervasive at most of the cultural sites situated in the haul road corridor or in locations where beachgrass is well established.

   Results of archaeological testing in 2011 by University of Davis (UCD) establish that construction of the Ten Mile River Railroad and truck road conversion not only resulted in direct impacts to the archaeological resources located within this travel corridor, but more wide spread indirect impacts as well. Apparent at most, if not all of the sites located in the western portion of the Preserve where the road is still present, is substantial site deflation and erosion that continues to adversely impact these resources. The haul road impedes

natural processes by restricting sand movement on the west and north sides of the grade. The road acts as a barrier and creates “deflation plains” along the landward side of the road that has resulted in wind-scoured areas level with the water table. Unfortunately, archaeological sites situated in these deflation plains have been adversely impacted with exacerbated deflation, erosion, and water inundation due to lack of sand which normally buffers these deposits. Subsurface testing at some of these sites in 2011 indicates the archaeological deposits are severely deflated and that the deposits have an average depth of a few centimeters. Additionally, the deposits appear to have been redistributed as a thin veneer across the plain and lack data potential. Consequently, these sites or components of these sites no longer retain integrity and are not eligible for inclusion into the National Register of Historic Places (NRHP). Removal of the haul road will substantially diminish and/or halt development of these deflation plains by allowing the sand to move eastward and allowing native dune vegetation to become reestablished.

Scientific studies conducted by California State Parks in the Ten Mile Dunes beginning in the 1970s, and consultation with experts on dune ecology, including Dr. Peter Baye and Harold Wollenberg, provide insight into how the introduction and establishment of European beachgrass has adversely affected not only the natural resources but archaeological resources as well. Pages 5 and 55 of the Initial Study/Draft Mitigated Negative Declaration (IS/MND) describe how the invasive nature of beachgrass has changed the dune topography by a cycle of sand buildup and shoot growth, and has impacted dune vegetation by outcompeting native plants. In the Ten Mile Dunes, European beachgrass has altered the natural dune processes such that sand accretion around clumps of beachgrass has increased dune height, while “wind tunnels” between the abnormally tall and abrupt dune mounds have caused dune surface erosion and deflation plains. As wind is funneled between beachgrass clumps, it not only removes the sand and older prairie soils where the archaeological sites are situated, it also deflates, erodes, and redistributes the archaeological deposits. These impacts have been documented extensively in the site records associated with these resources throughout the dunes where the beachgrass is well established.

Archaeological sites located in these areas infested with beachgrass have not only suffered significant impacts by exacerbated wind action which exposes, deflates, and erodes these sites, the erosional wind channels create natural paths of travel that have attracted pedestrians, equestrians, and occasional off-highway vehicles. This traffic has accelerated site deflation and erosion, and in some instances the paths have cut through deposits to depths up to 1.5 meters.

Page 90 of the IS/MND describes inundation in the dunes and cites studies pertaining to evidence of recent inundation and of changes expected as a result of sea level rise. Mapping from 2003 and more recent studies in the Ten Mile Dunes, demonstrates that all of the archaeological sites west of the haul road have been inundated at least prior to 2003. These comprehensive field studies also indicate that sites east of the haul road but west of the driftwood line have also been inundated at least prior to 2003. Sites positioned on the east side of the haul road are becoming more exposed as the deflation plains (slacks) become more pronounced and hence, will be increasingly effected by inundation under current conditions. The removal of the haul road will allow sand to move and accumulate into the exaggerated slacks, thus covering some of the exposed sites and decreasing the likelihood of site inundation. In the southwestern areas of the Preserve, where natural dune processes occur because the haul road and beachgrass no longer exist, the foredunes rise gradually from the beach, undulate slightly and are well vegetated with low-lying native plants. Where the haul road and beach grass are absent, waves are dispersed over a broader vegetated surface, rather than channeled and concentrated into deflation plains by unnatural elements.

In summary, this project has the capacity to stabilize archaeological deposits by reducing existing conditions that currently exacerbate site erosion and deflation by hindering natural dune processes. It is anticipated that this work will conserve the integrity of some sites identified as significant by improving dune ecology and restoring those natural dune processes that have been impeded for almost 100 years.

2. *You commented that many of these archaeological sites in the dunes have survived for centuries, if not millennia despite the natural forces that constantly alter the dunes.*

   This project will restore the dune ecology back to more natural conditions (Chapter 2, Section 4, Project Objectives) prior to development in the dunes during the 20th Century that included construction of the haul road and introduction of European beachgrass. Although natural forces cannot be mitigated (sand will move and sea level will rise over time), human induced impacts that have and continue to adversely impact these unique archaeological resources at an accelerated rate can be lessened.

   Most of the archaeological sites situated in the Preserve demonstrate in their records (through successive updates) increasing levels of human induced damage since the 1940s. Damages consisting of severe erosion, deflation, and inundation, though associated with natural forces, have been exacerbated by unnatural obstructions that create abnormally high dunes, deflation plains and wind channels that result in more severe environmental conditions that have destroyed archaeological deposits in the dunes. Removal of segments of the haul road and plots of European beachgrass will slow down these accelerated environmental conditions and perhaps aid in the survival of these sites for another millennia.

3. *You comment that this project will intentionally and aggressively restructure the habitats, landforms, and hydrology of the western dunes to the detriment of archaeological site preservation mandated by law and the park's General Plan.*

   State Parks staff are mandated by federal (National Historic Preservation Act and implementing regulations [36 CFR Part 800]) and state laws (California Environmental Act [CEQA]; Public Resources Code 5024 and process of meeting mandate 5024.5) State Park policies (Department Operations Manual [DOM] 0400 currently under revision) and the specific State Park General Plans to implement projects that are protective of all resources, including archaeological sites. State Parks staff and University of California, Davis Anthropology Department Staff have conducted extensive archival research, intensive pedestrian surveys, and subsurface investigations for this project in 2011 and 2012. These comprehensive studies focused on the entire Preserve. The work of both groups was synthesized and used to evaluate whether the proposed rehabilitation activities would impact resources and if such impacts would cause a substantial adverse change to the significance to the archaeological sites (CEQA Sec. 21094.1). Additionally, State Parks consulted with experts on dune ecology to make informed decisions related to project implementation and potential impacts to the cultural resources, both direct and cumulative from rehabilitation efforts.

   State Parks staff redesigned the project and developed treatment measures based on the data generated from these investigations to insure that potential impacts to ***all*** the archaeological resources in the Area of Potential Effects (APE) are maintained at a less than significant level. Some of these project revisions include: portions of the haul road will not be removed where archaeological sites are located to avoid impacting subsurface deposits that may be present immediately beneath the feature; plots of European beachgrass will remain in the vicinity of archaeological resources to avoid direct disturbance associated with hand removal; channel banks where culverts are removed will be armored

with willow sprigs and vegetation mats to control erosion; and an aggressive and extended archaeological site adaptive management monitoring program will be implemented at the onset of rehabilitation efforts to document and assess changes in the condition of these resources over time and to evaluate appropriate steps if conditions of the resources decline.

4. *You indicate that State Parks failed to use due diligence in assessing project impacts that may cause a substantial adverse change in the significance of historical resources in your statement: "to adequately address significant effects of this project on historical and unique archaeological resources it is necessary to first evaluate whether or not the cultural resources in the project vicinity qualify as unique archaeological sites or historical resources and then analyze all of the adverse changes that will be caused by the project."*

   CA-MEN-2946H, the former Union Lumber Company Haul Road was evaluated State Parks under PRC 5024.5 and was determined not eligible for listing on either the California Register of Historical Resources or the National Register of Historic Places. Preliminary eligibility determinations were conducted for all other cultural resources documented in the project area. These evaluations were based on archival research including Native American consultation, pedestrian surveys, and subsurface testing at eight sites; however, concurrence of the State Historic Preservation Officer (SHPO) regarding these eligibility determinations has not been pursued to date because, it was determined by State Park staff that this project would not cause significant impacts to the archaeological resources.

   The present unavailability of amalgamated evaluative information does not preclude long-term management of unevaluated cultural resources. The mission of State Parks and the nature of land use activities allow California State Parks to thoughtfully steward those properties that are recommended as significant, while protecting unevaluated sites from damage until such time that additional evaluative information can be collected.

   CEQA Guidelines (Title 14, Chapter 3) 15064.5(a)(2) states "a resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant."

   All sites located in the Area of Potential Effects were treated as "unique archaeological sites" (section 21083.2) or "historical resources" even though many have compromised integrity and do not contain scientific value due to a lack of data potential resulting from both natural forces and those induced by humans. Assuming eligibility, potential substantial adverse environmental effects that might result from project implementation were identified and examined as they relate to each site. Because the original project scope demonstrated the project could cause damage to unique archaeological resources, Park staff changed the project description and developed specific project treatments to preserve resources in place in an undisturbed state and avoid adverse impacts to the archaeological resources.

5. *You state that appropriate environmental documents that summarize evaluation results provide a complete analysis of all potentially significant foreseeable impacts, and proposed mitigations in a manner consistent with CEQA and Public Resources Code 5024 were not prepared for this project.*

   DPR Cultural Resource staff prepared the required documentation you reference; however, these documents contain sensitive information; staff redacted the attached copy for public viewing. When available at the North West Information Center, a professional archaeologist may request these un-redacted documents at cost.

6. *You state there is a potential for significant environmental consequences that remain unanalyzed and unmitigated and that preparation of an EIR is required unless the scale of the project is radically reduced.*

   As referenced- above, State Parks staff and contractors have conducted extensive archival and field studies to determine the APE, identify historic properties within the APE, and assess the effect(s) that the project could have on any historic properties in the APE. Based on this work, the project was redesigned and project treatment measures developed so that project work will not cause a substantial adverse change to the significance of the resources (CEQA Sec. 21084.1.) and as such, an EIR is not warranted.

   > *CEQA Guidelines (Section 15065 (b) (1): Where, prior to commencement of public review of an environmental document, a project proponent agrees to mitigation measures or project modification that would avoid any significant effect on the environment specified by subdivision (a) or would mitigate the significant effect to a point where clearly no significant effect on the environment would occur, a lead agency need not prepare an environment impact report solely because, without mitigation the environmental effects at issue would have been significant.*

7. *You comment that the project will reduce habitat for endangered plants and destroy" 11% of the endangered Howell's spineflower population, and that "project-induced intrusion of salt water" will reduce critical habitat for endangered plants and animals.*

   As your opening statements attest, you are a professional archeologist and historian. However, you do not provide reference of expertise in botany, dune ecology, or geomorphology. The environmental document for the MacKerricher Dune Rehabilitation Project was prepared by a team of professional coastal ecologists, and included State Archaeologists, Historians, Engineering Geologists, and Environmental Scientists. Rather than "destroy" populations of endangered species and their critical habitats, the project will greatly benefit these species by increasing critical natural habitat that will lead to the recovery of endangered populations. As explained in detail throughout the IS/MND, the primary objective of the project is "*to restore natural processes in a 1285-acre dune ecosystem of statewide significance within a Natural Preserve*", including "*to restore ecosystem processes that are crucial to the viability of endangered species and their habitats*". Pages 4-6 of the IS/MND provide detailed description of how the haul road and European beachgrass have impacted the endangered species, and how removal of these unnatural elements will greatly benefit the species through ecosystem-level restoration. As part of the environmental review process, existing populations of endangered species were documented and mapped in 2011. Your comment mistakenly assumes that the small population of Howell's spineflower that was mapped along the northern section of haul road is a finite population. As a dune annual, the spineflower population fluctuates by orders of magnitude among years, and their distribution changes even without intervention. The project, with mitigation, is expected (reasonably, with expert opinion guiding long-term management that is not occurring otherwise, but for the project) to result in a net long-term gain in both distribution and population size of spineflower in more sustainable and more potentially persistent stable locations. The long-term viability of the nominal "11%" of the spineflower population in the road alignment is very low because it is located immediately behind an active foredune and shoreline that is actively transgressing landward, driven by sea level rise in a location that is doomed in the long-term to provide stable dune habitat for spineflower. In addition to the plants, there is well documented evidence to show that the haul road and European beachgrass directly impact habitat of

the western snowy plover, and that removal of these unnatural elements will expand nesting and foraging opportunities (IS/MND pages, 5, 6, 50, 55, 68-69). We also worked closely with professional biologists from the regulatory agencies that have jurisdiction over the protection of endangered species (CA Department of Fish and Game and US Fish and Wildlife Service) to ensure beneficial results from the proposed project, as is required under state and federal regulations. The Mitigation, Monitoring, and Restoration Plan in Appendix E.2 further details measures to ensure that the endangered plant populations, including Howell's spineflower, will increase following project implementation.

8. *As the Chairperson for the Westport Municipal Advisory Council, and as a private individual, you have actively lobbied other agency representatives, local political leaders, and State Park upper managers for the development of a bicycle trail through the Inglenook Fen-Ten Mile Dunes Natural Preserve. For example, in an e-mail message dated August 27, 2012 to State Park Superintendent Loren Rex (and cc'd to District Superintendent Liz Burko, County Supervisor Kendall Smith, County Supervisor Elect Dan Gjerde, and Assemblymember Wesley Chesbro's Field Representative, Ruth Valenzuela), you stated (in part): "My suggestion is that concerns about that aspect of the project might be greatly reduced if State Parks made a commitment to plan an alternate bike/ped/wheelchair route through the northern park. I also believe an environmentally sensitive path is entirely feasible from both a cost and environmental standpoint. That view is based on mapping of critical habitats shown in the IS/MND and my own confidential knowledge of cultural resources." In a letter to Jesse Robertson, CalTrans District 1, and Janet Orth, Mendocino Council of Governments, you again lobbied for development of a Class 1 bicycle trail through the Natural Preserve and included a map showing a proposed location just inland from the existing haul road.*

   The alternative bicycle trail that you propose, as described above and shown on your map, would cause significant direct, indirect, long-term, cumulative, and irreparable impacts to Environmentally Sensitive Habitat Areas as defined under the Coastal Act, including populations of threatened and endangered species, wetlands, coastal dunes, and extensive archaeological sites. A team of highly respected ecologists, archaeologists, historians, engineering geologists, and environmental scientists surveyed the Ten Mile Dunes extensively and mapped the sensitive resource areas. Not all of these areas have been disclosed to the public, so not all were available to you when you prepared the map. We are not aware of any additional cultural surveys you may have conducted, and/or if you have engaged the services of professional biological and physical scientists to identify a non-impacting bicycle trail route through the dunes. Based on our in-depth knowledge of the Ten Mile Dunes, any bicycle trail route through the dunes would cause significant impacts, even if sensitive sites could be directly avoided during construction. In addition, a multi-use trail would greatly increase visitor use to the dunes, and in turn increase the potential for exposure and vandalism of archaeological resources.

   As explained in the IS/MND on pages 7, 115, 122, the haul road through the dunes is deteriorating and does not function as a continuous coastal trail. Plans during the mid-1990's by the Department of Parks and Recreation, which appeared at the time to be consistent with the General Plan, included a proposal to rebuild a continuous hardened surface trail through the dunes to connect washed out sections of the haul road. As explained on page 122 of the IS/MND, a feasibility study was conducted in 2000, which clearly concluded that a hardened trail through the dunes was incompatible with the Natural Preserve designation, and not feasible to construct due to significant environmental concerns. One of the main issues raised during the feasibility analysis was that construction of a hardened trail through the Natural Preserve would not be permitted through the coastal development process (if one was to be proposed), as no segments could avoid causing seriously detrimental effects to the Environmentally Sensitive Habitat

Areas of coastal dunes, wetlands, and endangered species habitat. In addition, no trail could be built to connect the washed out sections of haul road without impacting archaeological sites.

California State Parks appreciates your interest in the Dune Rehabilitation Project at the Inglenook Fen-Ten Mile Dunes Natural Preserve at MacKerricher State Park. Although trail development in the Preserve is not a feasible option, we would be glad to talk with you about trail enhancement to the south, outside of the Natural Preserve, that could avoid significant impacts to sensitive resources, and could better serve the needs of bicyclists, pedestrians, and visitors that are mobility impaired.

Sincerely,

Dionne Gruver
Associate State Archaeologist
California State Parks

Renée Pasquinelli
Sr. Environmental Scientist
California State Parks

cc:
Liz Burko, California Department of Parks & Recreation
Jan Wooley, California Department of Parks & Recreation
Dionne Gruver, California Department of Parks & Recreation
Abbey Stockwell, Mendocino County Department of Planning and Building Services

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Major General Anthony L. Jackson, USMC (Ret), *Director*
Mendocino District
12301 North Highway 1 – Box 1
Mendocino, CA 95460

November 26, 2012

Ms. Peggy Shannon
P.O. Box
Bodega Bay, CA 94922

RE: Initial Study/Draft Mitigated Negative Declaration
Inglenook Fen – Ten Mile Dunes Natural Preserve,
MacKerricher State Park Dune Rehabilitation Project

Dear Ms. Shannon:

Thank you for your comments during the public review period for the Initial Study/Draft Mitigated Negative Declaration (MND), MacKerricher State Park Dune Rehabilitation Project. Your comments concerning the cultural resources in the project area are appreciated and it is hoped that the following responses will help to answer some of your questions and concerns regarding the project.

1. In your letter you requested copies of the *Specific Project Requirements, Documented Archaeological Site Avoidance Plan* and the PRC §5024.5 review prepared for this rehabilitation project.

   These documents are included with this response letter; I hope you find them helpful. You will see that DPR archaeological staff conducted extensive archival research and field studies coordinated with the University of California, Davis (UCD) to make informed decisions about the project and potential impacts to the resources. During 2011 field studies, staff and UCD surveyed the entire Inglenook Fen – Ten Mile Dunes Natural Preserve and tested eight previously recorded archaeological sites to determine if the sites retained integrity. These sites are located in the project area where the most intensive ground disturbing activities associated with project work will be conducted. Based on the findings of these investigations, the project was redesigned and project treatment measures and/or mitigations developed to insure that impacts during and subsequent to project implementation are maintained at a less than significant level.

2. Your comments also referenced a study you conducted throughout MacKerricher State Park that assessed the cultural resources present in the park. You were wondering why this study (*MacKerricher State Park Archaeological Site Assessment, Coastal Erosion Monitoring and Stabilization Project 2003*) was not mentioned in the MND. Additionally, you did not understand how it was possible to conduct adequate impact analysis without referring to this work.

   This report was not referenced in the MND because during the literature search in support of this project, your report was not found. This literature search was extensive and included a review of files at the Departments of Parks and Recreations Northern Service Center (NSC); a search of the DPR Unit Data File (UDF); DPR Central Records; records on file with the Northwest Information Center (NWIC); and most importantly, the files retained by the Mendocino District where you worked and where you conducted the study. This report was

not filed in any of these locations. The NWIC provided DPR 523 Forms for the archaeological sites located in the project area. Many of these records contained updated records from your 2000-2003 study with DeGeorgey. Though your report was not obtainable for site impact analysis, we used the updated site records to relocate the archeological resources and site boundaries, make condition assessments of those resources, and determine impacts based on the existing conditions.

If this report is available in your home library, please provide copies to the NWIC; DPR Archaeology, History, and Museums at DPR Headquarters and to the Mendocino District office for their cultural resource files. It is important that you circulate this report since this investigation was so intensive and as you mentioned, resulted in changes to our understanding of these sites.

3. Your letter also states that you are "*concerned about the effects of windblown sand on archaeological resources, both burying and exposing resources, a condition that would result from beach grass removal. To address these issues, I installed a dune movement monitoring system that allows one to very simply and reliably document dune movement over time. I also installed metal datums to assist in site relocation*."

   As is discussed throughout the Initial Study/Draft MND, including pages 4, 5, 50, 58, 64, 84, and 85, dune movement is integral to the dynamic nature of the dune ecosystem. Native vegetation is highly adapted to this changing environment, and readily recolonizes areas where European beachgrass is removed. Sand has blown over the top of archaeological sites and has been scoured from the same sites due to the ever-changing conditions of the dunes for decades, long before European beachgrass was introduced to the Natural Preserve. Pages 5 and 55 of the Initial Study/Draft Mitigated Negative Declaration (IS/MND) describe how the invasive nature of beachgrass has changed the dune topography by a cycle of sand buildup and shoot growth, and has impacted dune vegetation by outcompeting native plants. In the Ten Mile Dunes, European beachgrass has altered the natural dune processes such that sand accretion around clumps of beachgrass has increased dune height, while "wind tunnels" between the abnormally tall and abrupt dune mounds have caused dune surface erosion and deflation plains. As wind is funneled between beachgrass clumps, it not only removes the sand and older prairie soils where the archaeological sites are situated, it also deflates, erodes, and redistributes the archaeological deposits. These impacts have been documented extensively in the site records associated with these resources throughout the dunes where the beachgrass is well established.

   We were unable to locate markers within the Natural Preserve that you may have used to track dune movement. However, a November 4, 2003 report by Hans Barnaal, written under contract to California State Parks, discussed datums that were installed south of the Preserve, particularly at Laguna Point.

Thank you again for your comments.

Dionne Gruver
Associate State Archaeologist
California State Parks – Northern Service Center

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Major General Anthony L. Jackson, USMC (Ret), *Director*
Mendocino District
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November 26, 2012

Tamara L. Gedik
Coastal Program Analyst
California Coastal Commission
North Coast District Office
710 E Street, Suite 200
Eureka, CA 95501-1865

Re: Comments on circulated Initial Study/Mitigated Negative Declaration – MacKerricher State Park Dune Rehabilitation Project, Inglenook Fen-Ten Mile Dunes Natural Preserve

Dear Ms. Gedik:

Thank you for reviewing the Initial Study and Mitigated Negative Declaration (IS/MND) and related documents for the MacKerricher Dune Rehabilitation Project and for attending the agency scoping meeting on March 14, 2011. Please accept this letter as response from the California Department of Parks and Recreation to your comment letter dated August 31, 2012 on this project.

You are correct in that the reference to a June 2005 MacKerricher State Park General Plan on page 35 of the IS/MND was a typographical error. The General Plan was approved in 1995 and an updated document has not been prepared. We will correct this error in the final MND.

Your letter states that "our primary concerns with the project as proposed relate to direct, unmitigated impacts to public access". Nothing proposed within the project will cause permanent impacts to existing public access, and no permanent public access closures are proposed for any area of the Inglenook Fen-Ten Mile Dunes Natural Preserve, which contains the entirety of the project. Short term impacts resulting from temporary closures for public safety during immediate road deconstruction activities have been addressed on pages 14 and 114-116 of the IS/MND.

The project proposes to remove remaining deteriorated sections of a former logging road that runs through a Natural Preserve. As explained throughout the IS/MND (pages 4-10, 51, 57, 60, 71-73, 87, 101-102), the road directly impacts natural processes that are critical for ecosystem functions that support sensitive native species and habitats. The road does not serve as a contiguous pedestrian, bicyclist, all accessibility trail, or as a trail used by people with strollers. Some of the statements in your letter, which appear to be based on misinformation include: *"The paved portions provide access to bicyclists and people with strollers. The current proposal to remove the road base and surface of the Haul Road in those areas described in the MND, and the removal of culverts at Inglenook and Fen Creeks interferes with the current intensity of use of the project area by recreationists, and will effectively reduce public access to this area once completed"*. As is shown in the attached report, between March and August, 2012, only about 3% of the visitor use within the Natural Preserve occurred on the haul road. Surveys were conducted at weekly intervals as part of a plover survey program; visitor use and location was one of the required elements for survey documentation. Park staff and volunteers that

have regularly conducted activities within the foredunes for nearly a decade, state that people with strollers and bicyclists do not use the haul road in the Natural Preserve (see attached report). Approximately 1 mile of road is completely washed out and much of the remaining approximate 2 mile sections are either dangerously eroded or partially covered with sand. The attached map (MacKerricher State Park Dune Rehabilitation Haul Road Condition) shows the current haul road condition through the dunes and the 2003 documented topography of the foredunes in the vicinity of the road.

No segment of the California Coastal Trail will be eliminated under the MacKerricher Dune Rehabilitation Project. The California Coastal Trail exists along the beach from Ward Avenue northward to the Ten Mile River, then parallels or follows the southeast-northwest alignment of the haul road to the Ten Mile Bridge. The easternmost half of this alignment section (approximately 225 yards) leading to the bridge is under private ownership and is not part of the proposed project. The proposal for the northwestern segment of the alignment is to remove the asphalt veneer (to allow some recovery by native plant species), but retain the underlying rock ballast, thus retaining a trail surface that will lead to an existing beach trail. The final MND will contain a more detailed description of the treatment proposed for this northernmost segment of the haul road and how coastal access will be provided to the beach. The attached revised project overview map will be included in the final MND.

The Mendocino County certified Local Coastal Plan (LCP) was adopted in 1980 and has not since been updated. The LCP and public access policies of the Coastal Act are cited in your letter as the "standard of review for any development subject to coastal development permit requirements". Although your letter additionally offers comments regarding mitigations for biological resources, no sections of the Coastal Act or LCP are cited regarding the protection of Environmentally Sensitive Habitat Areas. LUP 4.2-19, contained within the Local Coastal Plan (LCP) is cited as directing the Department of Parks and Recreation (DPR) to "*prepare a General Plan for MacKerricher State Park that provides access to Ten Mile River and Inglenook Fen at designated locations and subject to conditions necessary for preservation of the natural environment of the park*." However, as you note, the General Plan was not submitted to the County for adoption to the Recreation Element, and as such, has not been reviewed or certified by the Coastal Commission. The 1980 adopted LUP Policy 4.2-21 is also cited as recommending that the Georgia-Pacific Corporation haul road (then still under private ownership) be acquired by DPR and incorporated into its management plan for the park. The haul road has since been acquired and incorporated into the MacKerricher State Park General Plan. No sections of the LCP state that the haul road shall be maintained for public access in the Ten Mile dunes.

As part of the EIR process that included adoption of the MacKerricher General Plan by the State Park Commission, the property containing the beach, dunes, and wetlands between Ward Avenue and the Ten Mile River and all elements contained within, was classified as the Inglenook Fen-Ten Mile Dunes Natural Preserve. As stated in the IS/MND (page 4), the "*foundation for State Parks*" management approach for all units is based on the unit classification statutes as defined in the Public Resources Code (PRC § 5019.50 - 5019.80). PRC Section 5019.71 specifies the purpose of Natural Preserves. As such, and as explained in the IS/MND (pages 4 and 104), the overarching management focus of the Inglenook Fen-Ten Mile Dunes Natural Preserve and the purpose of the proposed project are based on State legal mandates defined under the Public Resources Code. Located only within the Preserve boundaries, the primary objective of the project is "*to restore natural processes in a 1285-acre dune ecosystem of statewide significance within a Natural Preserve*" (page 6 of the IS/MND).The full text of PRC Section 5019.71 reads:

> *Natural preserves consist of distinct nonmarine areas of outstanding natural or scientific significance established within the boundaries of other state park system units. The*

purpose of natural preserves shall be to preserve such features as rare or endangered plant and animal species and their supporting ecosystems, representative examples of plant or animal communities existing in California prior to the impact of civilization, geological features illustrative of geological processes, significant fossil occurrences or geological features of cultural or economic interest, or topographic features illustrative of representative or unique biogeographical patterns. Areas set aside as natural preserves shall be of sufficient size to allow, where possible, the natural dynamics of ecological interaction to continue without interference, and to provide, in all cases, a practicable management unit. Habitat manipulation shall be permitted only in those areas found by scientific analysis to require manipulation to preserve the species or associations that constitute the basis for the establishment of the natural preserve.

We find no section of the Coastal Act (PRC § 30000 – 37042) to state or imply that coastal access policies are to override or have precedence over PRC Section 5019.17. We also find no sections of the Coastal Act or the Mendocino LCP that would indicate that the proposed MacKerricher Dune Rehabilitation project would be in conflict with State coastal regulations. Rather, numerous sections of the Coastal Act and the Mendocino County LCP direct the protection of Environmentally Sensitive Habitat Areas, which include dunes, wetlands, and endangered species habitats, and allow for public access where compatible with the protection of sensitive natural resources. Where coastal access is addressed, the intent appears to be to facilitate public access from the nearest public road to the shoreline. However, it does not appear that the intent of coastal policies is to facilitate the development and maintenance of trails and roadways that traverse through sensitive habitats parallel to the beach.

As explained in the Draft IS/MND (pages 7, 115, 122), the haul road through the dunes is deteriorating and does not function as a continuous coastal trail. Plans during the mid-1990's by the Department of Parks and Recreation, which appeared at the time to be consistent with the General Plan, included a proposal to rebuild a continuous hardened surface trail through the dunes to connect washed out sections of the haul road. In response to outcry by the environmental community and regulatory agencies , a feasibility study was conducted in 2000, which clearly concluded that a hardened trail through the dunes was incompatible with the Natural Preserve designation, and not feasible to construct due to significant environmental concerns (Draft IS/MND page 122). We also find no sections of the Coastal Act or Mendocino County LCP that would permit development of hardened trail sections through the Inglenook Fen-Ten Mile Dunes Natural Preserve to create a contiguous trail (if one was to be proposed), as no segments could avoid causing seriously detrimental effects to the Environmentally Sensitive Habitat Areas of coastal dunes, wetlands, and endangered species habitat. In addition, no trail could be built to connect the washed out sections of haul road without impacting archaeological sites.

Listed below are selected sections of the Coastal Act and the Mendocino County LCP and LUP that support the MacKerricher Dune Rehabilitation Project's consistency with coastal regulations (<u>emphasis</u> added).

Public Resources Code
Division 20
California Coastal Act
Section 30001.
The Legislature hereby finds and declares:
<u>(a) That the California coastal zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately balanced ecosystem.</u>
<u>(b) That the permanent protection of the state's natural and scenic resources is a paramount concern to present and future residents of the state and nation.</u>
(<u>c) That to promote the public safety, health, and welfare, and to protect public and</u>

private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction.

(d) That existing developed uses, and future developments that are carefully planned and developed consistent with the policies of this division, are essential to the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone.

Section 30001.5 Legislative findings and declarations; goals

The Legislature further finds and declares that the basic goals of the state for the coastal zone are to:

(a) Protect, maintain, and where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.

(c) Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutionally protected rights of private property owners.

Section 30210.

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211.

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212.

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where

(1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,

Section 30214 Implementation of public access policies; legislative intent

(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

(1) Topographic and geologic site characteristics.

(2) The capacity of the site to sustain use and at what level of intensity.

(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.

Section 30240 Environmentally sensitive habitat areas; adjacent developments

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would

significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30231 Biological productivity; water quality
The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Mendocino County Coastal Element – Chapter 3 Land Use Plan: Resources and Development Issues and Policies
3.1-15 *Dunes shall be preserved and protected as Environmentally sensitive habitats for scientific, educational and passive recreational uses. Vehicle traffic shall be prohibited. Where public access through dunes is permitted, well-defined footpaths or other means of directing use and minimizing adverse impacts shall be developed and used.*
New development on dune parcels shall be located in the least environmental damaging location and shall minimize the removal of natural vegetation and alteration of natural landforms.

3.1-18 *Public access to sensitive wildlife habitats such as rookeries or haulout areas shall be regulated, to insure that public access will not significantly adversely affect the sensitive resources being protected.*
Development within buffer areas recommended by the California Department of Fish and Game to protect rare or endangered wildlife species and their nesting or breeding areas shall meet guidelines and management practices established by the Department of Fish and Game, and must be consistent with other applicable policies of this plan.

3.1-25 *The Mendocino Coast is an area containing many types of marine resources of statewide significance. Marine resources shall be maintained, enhanced and, where feasible, restored; areas and species of special biologic or economic significance shall be given special protection; and the biologic productivity of coastal waters shall be sustained.*

3.1-2 *Development proposals in environmentally sensitive habitat areas such as wetlands, riparian zones on streams or sensitive plant or wildlife habitats (all exclusive of buffer zones) including, but not limited to those shown on the Land Use Maps, shall be subject to special review to determine the current extent of the sensitive resource. Where representatives of the County Planning Department, the California Department of Fish and Game, the California Coastal Commission, and the applicant are uncertain about the extent of sensitive habitat on any parcel such disagreements shall be investigated by an on-site inspection by the landowner and/or agents, County Planning Department staff member, a representative of the California Department of Fish and Game, a representative of the California Coastal Commission. The on-site inspection shall be coordinated by the County Planning Department and will take place within 3 weeks, weather and site conditions permitting, of the receipt of a written request from the landowner/agent for clarification of sensitive habitat areas. If all of the members of this group agree that the boundaries of the resource in question should be adjusted following the site inspection, such development should be approved only if specific findings are*

made which are based upon substantial evidence that the resource as identified will not be significantly degraded by the proposed development. If such findings cannot be made, the development shall be denied. Criteria used for determining the extent of wetlands and other wet environmentally sensitive habitat areas are found in Appendix 8 and shall be used when determining the extent of wetlands.

Mendocino County Coastal Element – Chapter 4 Land Use Plan: Descriptions and Policies for Thirteen Planning Areas
Seaside Creek to Pudding Creek Trail
"Because of the sometimes hazardous conditions occasioned by tidal action and stream conditions at the mouth of Ten Mile River, the coastal trail in this area shall be segmented, rather than indicated as a continuous trail system. One segment shall extend from Seaside Creek Beach south to the northern bank of Ten Mile River. Another segment shall extend from the south side of Ten Mile River along the shoreline of MacKerricher State Park to Pudding Creek."

Your comment letter also quotes sections of the MacKerricher State Park General Plan and states that the proposed removal of the northern haul road is inconsistent with policies of the General Plan. Page 3 of the letter quotes the declaration of purpose for MacKerricher State Park as follows:

"The purpose of MacKerricher State Park is to make available to the people for their inspiration, enlightenment, and enjoyment, in an essentially natural condition, the outstanding scenic features and natural values, including the coastline embracing offshore environs; the stretches of sandy and rocky beach; the headland bluffs; the Ten Mile Dunes; the marine terraces; the wetland habitats including Lake Cleone and the unique Inglenook Fen; the geology and plant and animal life; the significant archaeological and historical resources; and the scientific values therein. (Emphasis added)"

Page 3 also quotes page 213 of the General Plan as stating: *"The environmentally-preferred alternative would have been the natural and cultural resource protection priority alternative (2). However, that alternative did not fully meet the goal of providing for the public use identified in project's statement of purpose. Therefore, the project proposed in the general plan is a combination of the natural and cultural resource protection priority and public use priority alternatives."*

As explained earlier in our response, through the General Plan process, the area containing the proposed project was classified as a Natural Preserve. Removal of the haul road as proposed in the Dune Rehabilitation Project does not conflict with the statements quoted above from the MacKerricher General Plan, is based on sound scientific principles, and is entirely consistent with the Natural Preserve classification. Public access to the Ten Mile Dunes, the stretches of sandy beach, and the Inglenook Fen will not change, and will not be limited as a result of the project. As evidenced from the attached use report, and based on our 20+ years of local park experience, the haul road section that runs through the foredunes of the Natural Preserve no longer functions as a contiguous trail and receives very little public use, as most visitors walk along the beach.

Page 54 of the MacKerricher General Plan reads:

"Natural preserve designation provides guidance and acts as a control upon the department by assuring that future plans will respect the degree of resource sensitivity identified within the preserve. This designation is also an aid in setting priority for field staff who will develop and implement the various resource management plans proposed

in a general plan. Those resource management plans relating to the natural preserve will receive consideration for higher priority based on the relatively greater significance of the resources. Natural preserve status also aids the department when dealing with possible threats to park resources from outside the park. It is a testament that there is support throughout the department for the special protection needed for resources within the preserve.

The many sensitive resources within the natural preserve at MacKerricher State Park will require a variety of management strategies. Different areas will experience different levels of public use, ranging from extremely low and controlled use in the fen to a relatively higher level at Ten Mile Beach. Public access in the foredunes will need careful regulation, as these dunes are the most likely to be disrupted by uncontrolled equestrian or pedestrian use. They are also the least protected from wind blast and wave action and encompass important nesting areas for western snowy plovers.

Most other parts of the dunes can be less controlled and remain undesignated for public use, as there is only a low level of foot traffic. There will be few formal designated access points and pathways. However, it is recognized that some especially fragile resource areas may require barriers to protect threatened features."

Designation of this area as a natural preserve simply supports the already existing authority of the District Superintendent to apply needed management measures, such as occasional fencing of an area, regardless of the preserve status.

Your letter also questions the safety of public access during storm events if the stream crossings are removed as proposed in the project description. As discussed on-site during the March 14, 2011 agency meeting, if the stream crossings were to be retained, not only would this be inconsistent with the purpose of the Natural Preserve, there would be no feasible or safe way to maintain fixed access to the crossings. The foredunes and the outlets of Fen and Inglenook Creeks are dynamic systems subject to unpredictable wave action and hydrologic processes. The photo on page 9 of the Draft IS/MD and the discussion on page 117, illustrate how the eroded remaining sections of haul road in the Natural Preserve create an unsafe barrier to public access between the beach and dunes. Throughout most of the year, Fen and Inglenook Creeks are easily crossed along the beach, as the terrestrial flow generally sinks into the sand at the lowest reaches of the streams. Only during high flow and storm events, at a time when fewer visitors are on the beach, would through access between Ward Avenue and the Ten Mile River be a challenge. Still, even during times when the creek outlets are difficult to cross on foot, visitors would be able to walk along the beach over one mile northward from Ward Avenue to Fen Creek, and nearly 1.5 miles southward from the Ten Mile River to Inglenook Creek.

Ample recreational opportunities exist within the vicinity of MacKerricher State Park and the City of Fort Bragg for multiple-use public access along the coast. The nearly three miles of haul road within the area classified as "State Park" (PRC 5019.53), south of the Natural Preserve (outside of the proposed project area), receive much greater use and primarily traverse the more stable coastal bluffs. As is appropriate, the Department of Parks and Recreation has future plans to repair and improve sections of the haul road that lie outside of the Natural Preserve. The Department has also purchased two beach wheelchairs to be used by people that are mobility impaired who want to access the beach from Ward Avenue northward. The City of Fort Bragg is in the process of implementing plans for a multiple-use public access trail along the coastal bluffs of the former Mill Site, south of Pudding Creek. Once the City's project is completed, the public will have access to more than five miles of contiguous coastal trail between Ward Avenue and the Noyo River.

In reference to a quote from the June 1977 Inglenook Fen Study your letter asks that we "*please clarify how exposing Fen Creek to stream flow as proposed will maintain the integrity of the established fen/fencarr system".* The Hydrology and Water Quality section of the IS/MND explains (pages 97-103) that Inglenook Fen is a natural feature that formed thousands of years ago when the sand dunes formed a barrier to the movement of surface and ground water from Fen Creek. As stated on pages 101-102 in the IS/MND: *"The proposed project would remove remnant road sections and two culverts which currently act as barriers to natural dune formation and dune hydrology. These changes would not substantially increase the rate or amount of surface runoff or increase the potential for offsite flooding. Rather, beneficial changes in the lower hydrology of Fen and Inglenook Creeks will occur from the removal of the culverts and road berm that currently constrict the channels. Inglenook Fen has been a natural feature for 4,000 to 6,000 years (Barry, W.J. and Schlinger, E. I. 1977) long before the construction of the road; removal of the road and culverts will not impact the fen. The overall goal of the project is to return the dune system to a more natural state, which is likely to improve drainage within the Preserve in the long-term. Therefore, the project would have no impact."*

We appreciate your acknowledgement of our proposed project efforts to improve habitat for sensitive biological resources and mitigate for impacts that may occur during project activities. In regards to the mitigation measures, Appendix E.2 spells out specific immediate and long-term objectives to mitigate for short-term project impacts to listed plants. The document also explains that the main goal and approach to the plan (pages 1-5 of Appendix E.2) is to develop a long-term strategy for on-going monitoring and adaptive management of natural ecosystems within the Preserve. As stated on page 1: *"The specific goals, actions, and methods in this plan represent an initial phase of a longer term ecological monitoring and adaptive management plan to be designed for the Preserve."* The Mitigation, Monitoring, and Restoration Plan was written by highly qualified and respected ecological consultants, Peter Warner, Dr. Peter Baye, and Teresa Sholars, and under consultation with USFWS and DFG botanical experts. We will continue to work closely with the regulatory agency ecologists to finalize the long-term restoration plan, and will continue to implement approved habitat restoration activities, including weed removal, as a recognized priority within the Natural Preserve.

By removing a deteriorating road that severely impacts ecosystem processes in a Natural Preserve, the proposed MacKerricher Dune Rehabilitation Project offers a rare opportunity for the public to see and experience a functioning natural coastal dune system that supports significant habitat for endangered species. If you have additional questions regarding the project, please do not hesitate to contact me (rpasquinelli@parks.ca.gov, or 707-937-5721). Again, I would be glad to meet with you and other Coastal Commission staff for another site visit at your convenience.

Sincerely,

Renee Pasquinelli
Senior Environmental Scientist

cc:
Linda Locklin, Statewide Coastal Access Program Manager, CA Coastal Commission
Robert S. Merrill, North Coast District Manager, California Coastal Commission
Abbey Stockwell, Mendocino County Planning and Building Services, Fort Bragg
Karyn Gear, North Coast Program Manager, State Coastal Conservancy

Attachments:

State Parks Internal Report: "Visitor Use of the old Haul Road within the Inglenook Fen-Ten Mile Dunes Natural Preserve"

MacKerricher State Park Dune Rehabilitation Haul Road Condition

Revised MacKerricher State Park Dune Rehabilitation Overview Map

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M E M O R A N D U M

To: Renée Pasquinelli
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Date: November 29, 2012

SUBJECT: Haul Road Project CEQA, MacKerricher State Park, Mendocino David Springer, retired geology instructor, comment letter Aug 29, 2012: Response to comments on Haul Road removal project potential effects on dune sand transport processes, patterns, vegetation interactions, and geomorphology; and hydrology of dune wetlands

The comments do not argue that dune remobilization of either foredunes or interior dunes is harmful to CSP natural resources. One of the fundamental objectives of the project is to remove artificial obstructions to natural sand transport within the MacKerricher ecological reserve and allow natural dune geomorphic and ecological processes to re-establish. European beachgrass and the Haul Road are obstructions to natural dune processes, so dune mobilization per se within the ecological reserve is a benign outcome consistent with basic project purpose – not a significant impact in itself. The letter cites and reaffirms the June 13 2012 email supporting the project, which reasonably includes its objectives.

Mr. Springer's comment letter does not present any ecological or geological arguments that either restored foredune mobilization or potential secondary effects like (hypothetical) increased interior dune mobility would adversely affect park natural resources (ecological features) internal to the ecological reserve. The implied argument may be that increased dune mobility of the interior, landward dunes may have significant adverse effects *on private property* or public infrastructure (roads) landward of the active dune field that is gradually encroaching them. This is indicated by the statement on page 2 of the letter referring to encroachment of private property. This is the key underlying issue for CEQA significant impacts. Most of the discussion in the letter is technical support of this (implied) argument. The argument that the haul road removal would cause significant increases in active dune encroachment of private property, relative to baseline conditions, fails for several reasons. The reasons include:

(a) High rates of baseline (existing) dune slipface and precipitation ridge migration (no potential to destabilize or significantly accelerate a massive mobile dune's migration). The volume of sand in the foredunes, and the flux of sand from beach to foredune, is dwarfed by

the accumulated mass of mobile sand in the interior landward dunes – particularly of the northern lobe.

(b) Significant discontinuity and very long dune travel distance (relative to maximum rates of mobile dune travel) between the foredunes (project area), wide stabilized dune wetland and wetland-dune transition zones, and the landward large mobile dune masses. Recent aerial photography confirms that there are no significant continuous unvegetated pathways for bedload (saltation) transport between foredunes and the remote mobile interior dune masses; the two are separated by a wide, stabilized, vegetated deflation zone with discontinuous low-level or localized blowouts. No substantial eolian ramps or bare deflation plains exist between foredunes and landward dune complexes. If foredunes migrate landward, they reach vegetated stabilized wetlands and dunes behind them. (This is disputed by Springer; see discussion below)

(c) Most definitively, there is no evidence of significantly increased foredune mobilization or landward migration rates in the extensive southern reach of the Haul Road alignment, where natural erosion has already eliminated the Haul Road surface and its embankment. This is in effect a natural, uncontrolled experimental result that is inconsistent with Springer's prediction that removal of the haul road would cause or risk significant increased landward migration of foredunes. In fact, the foredune blowout zone of the eroded Haul Road penetrates landward no more than the sections with the Haul Road in place, and the vegetated stabilized interior dune slacks landward of them increase resistance to their landward migration.

The baseline (existing) condition of the landward edge of the dunes bordering private property is gradual, progressive encroachment of coniferous forest and mature eucalyptus groves (high dune precipitation ridge) or coastal grassland and scrub (high dune slipface), with sparse, patchy, or absent vegetation on the mobile dune crest and on the very wide and high stoss (windward) slopes of the most landward active dunes. These lee slopes move gradually landward because of the high volume of sand required for a relatively small horizontal shift of the toe of the lee slopes of these massive dunes. In contrast, rapid dune lobe migration associated with broad, convex (not sharp-crested slipface) dune lobes occurs within the interior dunes, but is exceptional and localized at the landward margin of the active dunes.

For the project to have "significant" impacts on the encroachment of private property landward of the mobile dunes, sand transport from the project area (foredunes, Haul Road alignment at the seaward end of the dune system near the beach) would have to be transported across the entire dune field at sufficient volumes and rates to have a detectible effect on the magnitude of ongoing landward dune migration rates at these existing high slipface and precipitation ridge features. Note that there was no argument presented that there is a potential to destabilize existing stable dunes bordering private property or roads; the issue is the alleged potential to increase mobility of existing mobile dunes at the landward edge of the dune system.

Springer's comments do not address the rates of sand transport from beach to dune, or the volume of stored sand in the foredunes that could be mobilized, relative to the flux of sand within the landward massive mobile dunes, and their volumes. The rate of onshore transport from beach to foredune at Tenmile Dunes was assessed by W.S. Cooper (1967), who described the sand supply as "feeble", and recognized that the mobile landward dunes were relict past dune advances from periods of greater sand supply. The supply of sand moving onshore from beach through the dunes has evidently

decreased, as indicated by the significant net increase in vegetated deflation plains (dune slack wetlands) since the 1960s. Springer does not address the significant net increase in vegetated deflation plains in the dune system, or their implications for sand transport pathways, rates, and supply. Expansion of the slacks indicates insufficient resupply of sand to bury the slacks at a rate at least equal to the rate at which they are exposed by erosion to the water table. The segregation of multiple "waves" of slacks and residual mobile sand is indicative of gradual exhaustion of the sand supply during migration, in which portions of the migrating mass are stabilized by vegetation and unavailable for rapid reworking by wind.

The details of Springer's comments on the formation of lags of coarse sand lags misinterprets the report and its significance The significance of the lag deposits landward of the foredunes indicates that washovers have been deflated (sand eroded, leaving coarse particles), but not re-buried by migrating foredunes. This indicates *deflation* of the zone landward of the foredunes, including areas where the Haul Road has been eroded away by waves. The significance is that net erosion (deflation) contradicts the prediction of significant foredune migration landward of the Haul Road alignment, even where the Haul Road no longer exists. Similarly, Springer's reference to iron staining (iron oxide weathering) confuses the redox staining of sand in dune slack *wetlands* (due to alternating reduction and oxidation of iron, a rapid process) from the purely oxidative process of iron oxide weathering of non-quartz minerals in well-drained dune sand, an extremely slow process that occurs with soil development. In fact, buried soil horizons as well as subaerial (non-wetland) organic deposits (woody material) and weathered animal bones indicate the advanced age of the landward interior dunes, and lack of burial by fresh (unweathered) sand from foredunes and beach at the locations of observed iron-stained surface sand – confirming the interpretation of slow subaerial iron oxide weathering of the tan-brown sands deposited above the marine terrace . The wetland-related iron staining observations at seaward low elevations in the dunes are an unrelated and irrelevant phenomenon.

Finally, Springer's inference about the effect of the Haul Road on drainage of the fen wetlands and dune slacks is simply incorrect, and inconsistent with dune-dammed wetland drainages throughout the north-central and northern California coast. Foredunes naturally impound drainages and form dune ponds and fens with choked or intermittent outlets, or no outlets (seepage discharge only) at Manchester Dunes, Point Reyes dunes, and at other locations, as well as at Tenmile (MacKerricher) dunes. Moreover, the foundation of the Haul Road is simply transmissive beach and dune sand, not an impermeable barrier of clay or other non-transmissive fill at the depth of the water table. The culverts of the Haul Road in fact provide artificially stable drainage, even in disrepair. It is likely that elimination of concentrated flows at culverts will allow foredunes to increase intermittent impoundment of fen wetlands, favoring wetland expansion in the reserve; there is no mechanism for removal of the culverts and spontaneous restoration of continuous foredunes to increase drainage of the fen.

Springer's comments on "total loss of vegetative cover" are clearly erroneous, and ignore the natural succession of native dune vegetation and their effect on eoliann sand transport rates. The project will not result in "total loss" of vegetation, but replacement of European beachgrass with native dune forbs, as has occurred throughout the zone of past Haul Rd erosion by waves.

Technical detailed comments on eolian sand transport from classic Bagnold text are simply not relevant to this CEQA document, which identifies dune movement resulting from these processes. CEQA does not promote encyclopedic or introductory review scientific background materials, but focuses on potentially significant impacts.

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