

From: Marcia Hanscom <wetlandact@earthlink.net>
To: Cindy Lin/R9/USEPA/US@EPA

Date: Friday, January 25, 2013 02:12PM
Subject: TMDL standards - Malibu

Dear Ms. Lin:

We urge the EPA to adopt NEW TMDL standards that are reflective of the new, current science that informs us that a great deal of the information the prior TMDL standards were based on was erroneous.

1. New DNA analysis by Berkeley Lawrence Labs concludes that much of the bacteria at Malibu Lagoon and immediately offshore at Surfrider Beach is NOT coming from human sources, nor from pinnepeds, nor from birds - but rather from other NATURAL SOURCES. As you likely know, bacteria is a one of the fundamental components of our various ecosystems. Bacteria, especially regenerative bacteria in a coastal marsh is NATURAL and, in fact, crucial for the continuance of life in that ecosystem.

Your own EPA published report from the last TMDL adopted standards stated specifically that if the bacteria was found to come from natural sources, then the standards ought to be changed to reflect those realities. For more information about the Berkeley Lawrence Labs DNA analysis, please contact the City of Malibu and the US Geological Survey - both of which have access to the tests and results.

2. During the course of litigation over the project at Malibu Lagoon during the past two years, it was made known that the state of Malibu Lagoon was a natural state. i.e., the Ruppia - Submerged Aquatic Vegetation present in the lagoon is NATURAL and, in fact, increasingly rare. Some of the assumptions that the TMDL standards were based on presumed, incorrectly, that a higher salinity and circulation was desirable, when - in fact - the historical nature and geographical and geological features of the lagoon - tell a different story. The species themselves, like the endangered Tidewater Goby, also informs that this species has evolved to like STILL, CALM water - not highly circulated water - and this still water fosters the growth of SAV, which is serves as refugia for the Tidewater Goby and a store-house of food that the Goby requires. (see attached declarations by biologists Robert van de Hoek and Wayne Ferren.)

3. Dr. Randall Orton from the Las Virgenes Municipal Water District has provided interesting information about the Modelo formation that is well-known to geologists in the region. The minerals that come from this formation could be supporting the higher TMDLs of phosphorous, and his research requires greater scrutiny and consideration.

4. Finally, the historical nature of Malibu Lagoon and its environment must be taken into consideration when establishing the TMDL standards for this water body. Please review and incorporate the information within the public documents submitted by Dr. Travis Longcore, which speak to these issues.

All of these important sources of information and scientific findings must be included in setting any TMDL standards in the future.

Thank you!

Submitted by:
Marcia Hanscom
Executive Director
Wetlands Defense Fund
protecting & restoring Wetlands ~ the Cradle of Life
322 Culver Blvd., Ste. 317
Playa del Rey, CA 90293
(310) 821-9040

&

Managing Director
CLEAN ~ Coastal Law Enforcement Action Network
enforcing laws protecting the California coast

Attachments:

LongcoreMalibuLagoon.pdf	LongcoreReMalibuLagoonRevocation.pdf	FERREN,AUDUBON,VA NDEHOEK,CLEAN- WDF.pdf	Roy Final Dec.pdf
W++Ferren+Dec+(Final)[1].pdf	van de Hoek 2nd Dec.pdf		

Impending Malibu Lagoon “Restoration” Destructive and Misguided

Travis Longcore, Ph.D.
(310) 247-9719
longcore@usc.edu

The following assessment of the impending Malibu Lagoon project is provided in hopes that any officials with the power to do so will halt this destructive and futile project and instead develop plans that incorporate current understanding of the processes that govern coastal estuaries in a manner that will protect rather than harm native species that depend on these unique seasonally tidal wetland ecosystems.

Popular media accounts of the impending start of the Malibu Lagoon Restoration and Enhancement Project characterize it as “emotional activists vs. scientists” — implying that all of those opposed to the project are simply ill-informed and that all scientists agree that the project is both necessary and prudent. As a scientist, I disagree. The rationale upon which the project is based does not withstand scrutiny and reveals a fundamental misunderstanding of the historical and current forces that created and maintain the Malibu Lagoon. I have worked on the general topic of the historical characteristics of southern California rivers and estuaries for the past seven years and been part of research teams investigating the historical nature of these systems and the natural processes that form them.

The fundamental complaint about Malibu Lagoon from project proponents is that it lacks water circulation and as a consequence has low dissolved oxygen and sedimentation with nutrient rich waters and soils from the Malibu Creek watershed. Their solution is to scrape out the sediments in the west lagoon and reconfigure the Lagoon to increase tidal flow. But to expect this to change the nature of the lagoon is a mistake: Malibu Lagoon was historically and will in the future tend to be brackish and prone to sedimentation and low dissolved oxygen. In fact, it is likely that in its pre-European settlement state it would not have met current water quality standards. To understand this, consider the historical extent and nature of the area where Malibu Creek meets the ocean.

Early maps of Malibu Lagoon, such as the Coast Survey Sheet T-1432 from 1877, do not show a tidal marsh with a single main channel and branching arms. The reproductions I have seen of this map are not high resolution, but it appears that Malibu Creek swings out to the west and then forms a lagoon behind a barrier beach. There seems to be a marsh, not an extensive one, but rather one with maybe two channels branching off at 90 degree angles from a main channel. The same configuration is evident in the 1903 topographic map, except the stream has moved to the east. Subsequent maps show these features in various degrees of being filled in by development. Nowhere have I ever seen evidence of the characteristic dendritic network of a fully tidal salt marsh. Which brings us to a second point. Malibu is, and has been for at least hundreds of years, a closing estuary.

The flow from Malibu creek is insufficient to keep the longshore wave action from forming a berm during the summer. Malibu Creek is closed completely from the ocean about half of the

year. This might change from year to year, but the pattern of annual closure is a natural part of this system. The tendency for a system such as this will be that back channels will slowly sediment in until they are cleared out by a big flood or a shift in the creek's route. That is, the lagoon of recent history (last 200 years) was not a set of channels created and maintained by tidal flow, but rather was the remnants of former creek routes scoured out during extreme flooding events and subsequent movement of the creek mouth. The creek would change routes across the whole floodplain of the Civic Center area, with a tendency for the mouth to migrate to the east with the longshore flow of wave action over time, until constrained by the bluffs at the eastern edge.

So long as it is not jettied open to the ocean, we should not expect the Malibu Lagoon to behave like a fully tidal salt marsh, even if it is graded to look like one. Yet, this is the apparent goal of the project proponents. They want to change the water quality by introducing more tidal flushing. They expect this to reduce sedimentation and increase dissolved oxygen. Although not an explicit goal of the project, many proponents have argued the dredging will reduce bacteria in the lagoon. Some have also suggested that this will help deal with invasive plant species by making the water saltier. But all of this reflects an attempt to make the lagoon into something it historically was not and that is not supported by the physical processes currently in place. The back channels of the lagoon will have low dissolved oxygen. As long as there are nutrient rich sediments coming down Malibu Creek the lagoon will tend to silt up and accumulate these sediments. During the summer the lagoon will close and there will be a heavy freshwater influence. And because conditions very similar to these occurred in California estuaries for hundreds and thousands of years, native species are adapted to them. Tidewater gobies — the endangered fish that breeds very successfully in the lagoon — has an enormously wide range of tolerance for dissolved oxygen and loves the submerged aquatic vegetation that some see as an indicator of poor water quality. It is doing very well in the lagoon as is.

The field of coastal wetland restoration in California is dominated by people who believe that the only good wetland is one that is fully tidal year round. So we see various “restorations” that consist of constructing jetties to artificially open to the ocean naturally closing estuaries— Bolsa Chica Wetlands, Batiquitos Lagoon, San Dieguito Lagoon, Talbert Marsh, and the current plans for the Ballona Wetlands. Each time this is done, some of the native biodiversity and natural variation in California estuaries is lost (see our [detailed report](#) on this topic). And because these “restorations” are attempts to create a condition not supported by the physical processes of the place, they also involve incredible expense and energy to dredge these artificial openings to keep them from silting in.

Which brings us to a final point about the Malibu Lagoon project. The planning documents for the project indicate that if the tidal flows in the newly constructed channels falls below those at some reference marshes, then heavy equipment could be used (again) to make sure that the Lagoon behaves like the designers intended by dredging the channels. The reference marshes listed to trigger such actions are all systems that are artificially jettied open (Talbert Marsh, Batiquitos Lagoon, and Carpinteria Marsh) and are dredged to stop the natural process of mouth closure. Using these as references for Malibu Lagoon reflects that managers both misunderstand the natural dynamics of Malibu Lagoon — the flow in channels of a naturally closing estuary should not be expected to match that of one that is jettied open — and ensure that they will be

fighting those natural processes for years to come to get it to behave more like what they want it to be, instead of what it is. Furthermore, tidewater gobies are no longer found at these “reference” marshes, and could never be reintroduced because of management for a permanently open channel mouth.

If the restoration proceeds, and I sincerely hope it does not, I predict that it will fare little better than the previous attempt ending in 1983 on the metrics that motivate project proponents. In the short run it may increase dissolved oxygen and increase salinity (which would actually be a degradation of habitat for the original native flora and fauna adapted to a brackish marsh). In the long run, sedimentation will continue, nutrient levels will be high, water will stagnate in the channels, and it will be full of bacteria. We should only be upset about these things if they are caused by humans (e.g., polluted runoff and increased erosion from the watershed). These problems have to be dealt with before the water gets to the lagoon. Even if they are cleaned up entirely the lagoon might not meet arbitrary water quality standards, but then again it probably would not have met those standards 200 years ago either!

Certainly things could be done to promote native biodiversity at Malibu Lagoon. They should not, however, be premised around a misunderstanding of what the natural processes will support. And they should recognize that the native biodiversity of Malibu Lagoon is that associated with either the main channel or brackish marshes and stagnant water, not a fully tidal saltmarsh. The area where the parking lot was removed could be graded down and added to the wetland area, but there is no need or long-term benefit to reconfiguring the channels into some idealized saltmarsh form as if it were San Francisco Bay. Even as rare as saltmarsh habitat is in California, the brackish and freshwater wetlands of the naturally closing systems (which historically were the majority) are even more rare and we should resist the temptation to homogenize them.

To claim that Malibu Lagoon is “dying” is to fail to grasp what kind of wetland it is. It is not dying. It is simply approaching equilibrium with the physical processes of the watershed and some people have decided that they would prefer a different type of wetland. The lagoon supports significant biodiversity, just not the same species as one would find in a permanently tidal salt marsh. We should no more expect a seasonal creek to be river or a meadow to be forest than to expect a lagoon that is closed to the ocean for half of the year to have the same water characteristics as those that are flushed year round by the ocean. The current “restoration” will be destructive to the natural community that has developed since the first dredging project (including the extremely successful reintroduction of endangered tidewater gobies), have obvious impacts to the waterfowl that use the lagoon for nesting and foraging, and provide little benefit that could not instead be achieved in a far less destructive manner.

About the Author*

Dr. Travis Longcore is Science Director of The Urban Wildlands Group and President of the Board of Directors of the Los Angeles Audubon Society. He is also Associate Research Professor at the University of Southern California Spatial Sciences Institute and Associate Adjunct Professor at the UCLA Institute of the Environment and Sustainability where he has taught, among other courses, Bioresource Management, Environmental Impact Analysis, and the Environmental Science Practicum. He was graduated *summa cum laude* from the University of Delaware with an Honors B.A. in Geography, holds

an M.A. and a Ph.D. in Geography from UCLA, and is professionally certified as a Senior Ecologist by the Ecological Society of America. He has worked with research teams to describe the historical ecology of rivers and estuaries along the southern California coast, including the San Gabriel River, Ballona Creek, Santa Clara River, Ventura River, and Ventura County coastal wetlands. These reports can be downloaded at: <http://www.urbanwildlands.org/longcore.html> in the “Historical Ecology” section.

* Affiliations are provided for identification purposes only and do not indicate endorsement by any organization, institution, or individual.

TRAVIS LONGCORE, PH.D.
P.O. Box 24020
Los Angeles, CA 90024-0020

August 7, 2012

W4.5a

Mary Shallenberger, Chair
California Coastal Commission
89 South California Street, Suite 200
Ventura, CA 93001-2801

Re: Revocation Request for Application No. R-4-07-098 “Wetland Habitat Restoration and Enhancement Plan for Malibu Lagoon ”

Dear Chair Shallenberger and Commissioners:

It is a matter of public record that I oppose the Malibu Lagoon Restoration & Enhancement Plan. I have circulated a letter outlining the scientific reasons for this opposition, a copy of which was attached to the request for revocation that was submitted to the Commission. I will not reiterate the points made there, since this item pertains to whether State Parks intentionally presented inaccurate, erroneous, or incomplete information to the Commission in conjunction with the coastal development permit application for the project. The events that have unfolded since this Commission approved the project have confirmed that the application was inaccurate and incomplete.

In particular, State Parks did not provide the Commission (or the public) with the information that a California Species of Special Concern, the south coast marsh vole (*Microtus californicus stephensi*), was present in some numbers on the project site.

California State Parks was the lead agency for the CEQA compliance for the Malibu Lagoon project and presented an allegedly complete EIR to the Commission. This EIR included an assessment of native mammals on the site from three days of surveys in 2005 that yielded only a single black rat. Commenters on the EIR pointed out the need to further characterize the small mammal community, and indeed this was part of the Final Malibu Lagoon Restoration and Enhancement Plan (p. 44). The consultant relied upon by the State made the claim that “Most researchers appear to agree that salt marshes are unfavorable for most small mammals” and apparently no further investigation was made. Of course, this claim was incorrect, and several sensitive species of small mammals are found in coastal marshes in southern California (see e.g., von Bloeker 1932).

To rely on this statement reveals an embarrassing lack of knowledge of its own biological resources on the part of California State Parks. There are two California Species of Special Concern that are restricted to salt marshes in southern California. These are the south coast marsh vole and the southern California salt marsh shrew (*Sorex ornatus californicus*) (von

Bloeker 1932). Any competent biological consultant and especially a state agency with stewardship responsibility over biological resources would know that a salt marsh in Los Angeles County is possible habitat for these species. Jack von Bloeker described both of these species in 1932, with the range for the shrew described as “coastal marshes in Los Angeles and Ventura counties, California,” and the meadow vole as “coastal marshes in Orange, Los Angeles, and Ventura counties, California” (von Bloeker 1932).

Yet, no mention is made in any of the documents submitted to the Commission of even the possibility that a sensitive species would be found in the habitats to be removed by this project. Either someone at State Parks intended for this possibility to be ignored, or State Parks is woefully and *willfully* ignorant about the sensitive species on its own property. Even a cursory investigation of a distribution map for *Microtus californicus* shows that Malibu Lagoon is within the range of the subspecies *stephensi* (Gill 1984).

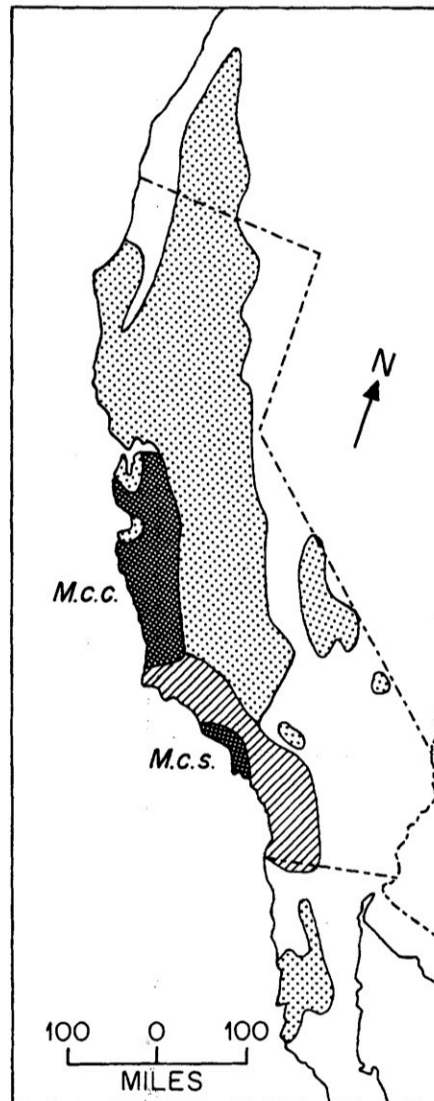


Fig. 1. Range of *Microtus californicus* (patterned areas), including ranges of subspecies *californicus* (*Mcc*) and *stephensi* (*Mcs*) (darker areas) and *sancridiegi* (lined). Adapted from Hall & Kelson (1959).

When a citizen naturalist snapped pictures of a Great Blue Heron at Malibu Lagoon eating a meadow vole in June of this year, others and I made the logical assumption that it would turn out to be a south coast meadow vole, based on the habitat. Although it is not possible to determine the subspecies with absolute certainty without a specimen, which adequate pre-project trapping at Malibu Lagoon would have yielded, once the presence of a meadow vole in that habitat was known, the sensitive subspecies was the only logical conclusion. State Parks has since confirmed that the meadow vole present at Malibu Lagoon was indeed the sensitive subspecies *stephensi*. It sent specimens to the National History Museum of Los Angeles County that were apparently killed in the construction process and reports “relocating” 50 of them. Indeed, even former Director Ruth Coleman refers to their presence in her objection to the revocation hearing.

When the south coast meadow vole photos came to light, I contacted Dr. Jonna Engel of your staff, whom I know and to whom I have provided expert assistance (at her request) in the past, so that effective mitigation measures could be devised and implemented. Our correspondence is reproduced here in chronological order.

From: Travis Longcore <longcore@urbanwildlands.org>
To: Engel, Jonna@Coastal
Sent: June 19, 2012 10:24 AM
Cc: Ainsworth, John@Coastal
Subject: south coast marsh vole

Hi Jonna,

Malibu Lagoon has a population of south coast marsh vole, which was recently documented by photographic evidence and confirmed by experts. It is a California species of special concern.

The EIR provided no mitigation measures to protect this species during construction, nor did the CDP.

It will be lost if construction continues as planned.

Can someone please do something so that yet another extirpation of a sensitive species is not the result of this project. We would never let a developer get away with continuing construction if a special status species was found during construction. This is a State species of concern and the State is doing the project, you'd think someone would do something.

Travis

From: Jonna@Coastal Engel <Jonna.Engel@coastal.ca.gov>
To: Travis Longcore <longcore@urbanwildlands.org>
Sent: June 19, 2012 12:37 PM
RE: south coast marsh vole

Hi Travis,

Who is the expert that identified the vole as a south coast marsh vole? I just had a long conversation with Paul Collins – I used to work with him at the SBMNH. He told me that it is impossible to identify south coast marsh voles from photographs – that in order to identify this species you must collect them, dissect them and do cranial morphology.

However, I am concerned that there may be sensitive mammal species at Malibu Lagoon and that is why we have special condition 1:

1. Initiate a salvage and relocation program prior to any excavation/maintenance activities to move sensitive species by hand to safe locations elsewhere along the project reach or (2) as appropriate, implement a resource avoidance program with sufficient buffer areas to ensure adverse impacts to such resources are avoided. The applicant shall also immediately notify the Executive Director of the presence of such species and which of the above actions are being taken. If the presence of any such sensitive species requires review by the United States Fish and Wildlife Service and/or the California Department of Fish and Game, then no development activities shall be allowed or continue until any such review and authorizations to proceed are received, subject to the approval of the Executive Director.

I am looking into this right now.

Jonna

p.s. I heard you on NPR – great spot!

From: Travis Longcore <longcore@urbanwildlands.org>
To: Jonna@Coastal Engel <Jonna.Engel@coastal.ca.gov>
Sent: June 19, 2012 12:53 PM
Re: south coast marsh vole

Hi Jonna,

You can tell it is a marsh vole, which Paul has confirmed to Roy van de Hoek (sp?), and south coast is the likely one. In the absence of conclusive knowledge that it is not, prudence dictates assuming that it is. It was collected and named by von Bloeker in 1932 and the distribution is LA, Orange, and Ventura counties. Once you know it is *M. californicus*, *stephensii* is the logical conclusion. Type locality is Mugu, doesn't seem possible that it would be anything else.

You can't exactly relocate marsh voles and expect them to be ok, and presence of this species should trigger consultation with DFG. Please let me know what the specific mitigation measures that will be for this species.

I'd also like to discuss my other concerns with this project, which I sent previously.

Travis

Here is the draft watch list account from DFG. Apparently they are downgrading to watch list, but it is currently SSC. See here: <http://www.dfg.ca.gov/wildlife/nongame/ssc/docs/mammal/species/47-WatchListAccunts.pdf>

South coast marsh vole, *Microtus californicus stephensi*

Philip W. Brylski

The south coast marsh vole occurs in a narrow band of wetland communities and associated grasslands in the immediate coastal zone from southern Ventura County to northern Orange County. According to Hall (1981), *M. c. stephensi* occurs from the type locality at Point Mugu, Ventura County, south to Sunset Beach, Orange County. Museum records for intervening localities are known for Ballona Wetlands and adjacent Playa del Rey, Los Angeles County. Vole populations that occur south of Sunset Beach, such as in the tidal marshes of Anaheim Bay near Newport Beach, are referable to the more widespread *M. c. sanctidiegi*. Coastal development from Sunset Beach north to Pacific Palisades, Los Angeles County, has resulted in the loss or degradation of the once extensive tidal marshes, leaving a series of fragmented and isolated habitat patches. Within this zone, suitable habitat remains at the Seal Beach Naval Weapons Center north of Sunset Beach, and at Ballona wetlands. Populations of the south coast marsh vole still occur in these areas, although no data are available on their status. Much of the coastal habitat from Pacific Palisades west and north to Point Mugu is afforded some protection from State parkland and the regulatory restrictions of the Malibu Coastal Plan and the Significant Ecological Areas identified under the Plan. Although no data are available on the status of the species, the south coast marsh vole is included on the Watch List rather than as a Special Concern taxon. Bleich (in review) also acknowledged the likely impact of coastal development on the south coast marsh vole, but considered the data to be insufficient to assign a risk of extinction to the species. Bleich (in review) also recommended that because the distribution of *M. c. stephensi* is surrounded by *M. c. sanctidiegi*, which in turn is surrounded by *c. californicus*, follow-up taxonomic or experimental work should, at a minimum, include all three forms.

From: Jonna@Coastal Engel <Jonna.Engel@coastal.ca.gov>

To: Travis Longcore <longcore@urbanwildlands.org>

Sent: June 19, 2012 1:13 PM

RE: south coast marsh vole

Hi Travis,

That is not what Paul told me. I had a long conversation with him. He told me that Malibu Lagoon is in the range of the California vole and that it could be a California vole. In addition Paul told me that genetic work has been done on these voles that supports the two subspecies actually being one species and that the agencies have not caught up with the science.

I have talked with Mark Abramson this morning to confirm some things. CEQA required small mammal surveys – small mammal surveys were done/trapping was done. There are no protocol level surveys for the 3 sensitive rodent species. The pre-construction surveys were done. There are several biological consultants on site now surveying all areas just prior to any work. Any animals that are in the path of the construction are being moved to appropriate locations.

Special Condition 1 requires consultation with DFG & USFWS – Mark is in consult with them. Please contact Mark to discuss.

Malibu Lagoon is a seasonal lagoon/estuary - has a history of being closed/open. The restoration was designed without involving the lagoon opening. I have had a long conversation with David Jacobs. I am sorry but I really do not have time to discuss this with you, I have many deadlines that I have to address. We obviously have a difference of opinion. I approved the lagoon restoration – you may have read my memo.

Jonna

From: Travis Longcore <longcore@urbanwildlands.org>
To: Jonna@Coastal Engel <Jonna.Engel@coastal.ca.gov>
Sent: June 19, 2012 1:35 PM
Re: south coast marsh vole

Jonna--

So we give them a pass because their small mammal trapping was not sufficient to locate the species that were present?

It is the obligation of the proponents to provide proof that it is not *stephensi*. It is the likely subspecies, especially given the habitat.

As I'm sure you know, relocating wildlife in this manner essentially lets people feel better about not killing them directly, but in fact results in their eventual death. This is a typical developer approach -- we'll just "move" the wildlife. But then they die. I'm very disappointed that the State has adopted such an approach as if it were valid. It would have been more justifiable if they had collected the herps and mammals for specimens for the museums. At least be honest that these native animals are being killed.

We do have a difference of opinion. I've read you memo and disagree with many of your conclusions. I guess all that I can do now is write a post mortem on this project for an environmental management journal to document how groupthink in the agencies surrounding these "restoration" projects has led to the ongoing erosion of California coastal biodiversity.

Regards,
Travis

From: Jonna@Coastal Engel <Jonna.Engel@coastal.ca.gov>
To: Travis Longcore <longcore@urbanwildlands.org>
Sent: June 19, 2012 1:42 PM
RE: south coast marsh vole

Please do not email me any more.

Jonna D. Engel, Ph.D.
Ecologist
California Coastal Commission
89 S. California Street, Suite 200
Ventura, CA 93001
(805) 585-1821

The facts here speak for themselves. State Parks submitted information to the Commission that was demonstrably inaccurate in that it did not disclose the presence of a California Species of Special Concern. They certainly intended to submit the material, and the failure for it being inaccurate is theirs alone. State Parks may also have missed other sensitive mammalian species because of the inadequate trapping effort undertaken (e.g., southern marsh shrew, *Sorex ornatus salicornicus*, which is not readily captured with the Sherman traps presumably used in their 3-day survey for small mammals in September 2005) (Natural Resources Assessment 2005).

Had State Parks submitted accurate information about biological resources, the Commission almost certainly would have imposed different conditions on the project. Dr. Engel asserts that a salvage and relocation program that was part of the project conditions would be adequate to cover south coast meadow vole (Condition 1.B). It is not, however, a generally accepted mitigation measure to relocate native wildlife. As a member of the Environmental Review Board for Los Angeles County I have had to tell developers any number of times that simply “moving” the wildlife out of their development site was not a mitigation because wherever they might be trying to move animals to would already be occupied. Relocation should only be undertaken as a last resort and then must be properly planned. This is because male California meadow voles maintain territories and are aggressive to interlopers, which is especially true during breeding (Ostfeld 1985a, Ostfeld 1985b). Female voles are aggressive toward unfamiliar females (Ostfeld 1986). This makes relocation a wholly inappropriate mitigation measure. Any recipient site for relocated individuals would have to already be unoccupied by the species (to avoid intraspecific interactions), and the density of the relocated individuals could not exceed the capacity of the habitat to support them. Former Director Coleman acknowledges this in her letter, when she writes:

“A lengthy project delay would cause animals that have been re-located to adjacent habitat to adjust their population density downward to utilize what is now available to them... The South Coast marsh vole, a California Species of Concern [*sic*], is one species that would be affected by being slower to re-establish itself in the project area.”

So State Parks knows and understands that relocation of sensitive species means that they will “adjust their population density downward” (a euphemism for “die”) when released into a new location. They make no provision, it appears, for the intraspecific aggression that would occur when attempting to do such a translocation and which would speed up the process of “adjusting their population density downward.”

If State Parks properly disclosed presence of the meadow vole, a reasoned discussion about mitigation measures could have occurred. At a minimum, the public was denied the ability to comment on the impacts to this species and the proposed mitigation measures by State Parks’ submittal of inaccurate and incomplete information.

The Commission should revoke the permit for this project and require immediate restoration of the project site as it would do with any other developer. In formulating such a restoration plan, the State should consider the issues raised in my letter attached, which points out that as long as Malibu Creek is constrained under the Pacific Coast Highway bridge, it cannot move across the floodplain and scour out and create lagoon space as it did historically, nor are tidal flows sufficient to maintain the type of extensive marsh system that was created by the original project in the 1980s or the proposed new configuration. Restoration of the site should be done with awareness of these facts, and seek to restore the types of wet meadow, brackish marsh, and seasonally inundated habitats that would have historically been found with these hydrological conditions, rather than an idealized and inappropriate channel configuration that attempts to replicate a fully tidal salt marsh where there never was one.

Sincerely,



Travis Longcore, Ph.D.

Literature Cited

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- Ostfeld, R. S. 1986. Territoriality and mating system of California voles. *Journal of Animal Ecology* **55**:691–706.
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Impending Malibu Lagoon “Restoration” Destructive and Misguided

Travis Longcore, Ph.D.
(310) 247-9719
longcore@usc.edu

The following assessment of the impending Malibu Lagoon project is provided in hopes that any officials with the power to do so will halt this destructive and futile project and instead develop plans that incorporate current understanding of the processes that govern coastal estuaries in a manner that will protect rather than harm native species that depend on these unique seasonally tidal wetland ecosystems.

Popular media accounts of the impending start of the Malibu Lagoon Restoration and Enhancement Project characterize it as “emotional activists vs. scientists” — implying that all of those opposed to the project are simply ill-informed and that all scientists agree that the project is both necessary and prudent. As a scientist, I disagree. The rationale upon which the project is based does not withstand scrutiny and reveals a fundamental misunderstanding of the historical and current forces that created and maintain the Malibu Lagoon. I have worked on the general topic of the historical characteristics of southern California rivers and estuaries for the past seven years and been part of research teams investigating the historical nature of these systems and the natural processes that form them.

The fundamental complaint about Malibu Lagoon from project proponents is that it lacks water circulation and as a consequence has low dissolved oxygen and sedimentation with nutrient rich waters and soils from the Malibu Creek watershed. Their solution is to scrape out the sediments in the west lagoon and reconfigure the Lagoon to increase tidal flow. But to expect this to change the nature of the lagoon is a mistake: Malibu Lagoon was historically and will in the future tend to be brackish and prone to sedimentation and low dissolved oxygen. In fact, it is likely that in its pre-European settlement state it would not have met current water quality standards. To understand this, consider the historical extent and nature of the area where Malibu Creek meets the ocean.

Early maps of Malibu Lagoon, such as the Coast Survey Sheet T-1432 from 1877, do not show a tidal marsh with a single main channel and branching arms. The reproductions I have seen of this map are not high resolution, but it appears that Malibu Creek swings out to the west and then forms a lagoon behind a barrier beach. There seems to be a marsh, not an extensive one, but rather one with maybe two channels branching off at 90 degree angles from a main channel. The same configuration is evident in the 1903 topographic map, except the stream has moved to the east. Subsequent maps show these features in various degrees of being filled in by development. Nowhere have I ever seen evidence of the characteristic dendritic network of a fully tidal salt marsh. Which brings us to a second point. Malibu is, and has been for at least hundreds of years, a closing estuary.

The flow from Malibu creek is insufficient to keep the longshore wave action from forming a berm during the summer. Malibu Creek is closed completely from the ocean about half of the

year. This might change from year to year, but the pattern of annual closure is a natural part of this system. The tendency for a system such as this will be that back channels will slowly sediment in until they are cleared out by a big flood or a shift in the creek's route. That is, the lagoon of recent history (last 200 years) was not a set of channels created and maintained by tidal flow, but rather was the remnants of former creek routes scoured out during extreme flooding events and subsequent movement of the creek mouth. The creek would change routes across the whole floodplain of the Civic Center area, with a tendency for the mouth to migrate to the east with the longshore flow of wave action over time, until constrained by the bluffs at the eastern edge.

So long as it is not jettied open to the ocean, we should not expect the Malibu Lagoon to behave like a fully tidal salt marsh, even if it is graded to look like one. Yet, this is the apparent goal of the project proponents. They want to change the water quality by introducing more tidal flushing. They expect this to reduce sedimentation and increase dissolved oxygen. Although not an explicit goal of the project, many proponents have argued the dredging will reduce bacteria in the lagoon. Some have also suggested that this will help deal with invasive plant species by making the water saltier. But all of this reflects an attempt to make the lagoon into something it historically was not and that is not supported by the physical processes currently in place. The back channels of the lagoon will have low dissolved oxygen. As long as there are nutrient rich sediments coming down Malibu Creek the lagoon will tend to silt up and accumulate these sediments. During the summer the lagoon will close and there will be a heavy freshwater influence. And because conditions very similar to these occurred in California estuaries for hundreds and thousands of years, native species are adapted to them. Tidewater gobies — the endangered fish that breeds very successfully in the lagoon — has an enormously wide range of tolerance for dissolved oxygen and loves the submerged aquatic vegetation that some see as an indicator of poor water quality. It is doing very well in the lagoon as is.

The field of coastal wetland restoration in California is dominated by people who believe that the only good wetland is one that is fully tidal year round. So we see various “restorations” that consist of constructing jetties to artificially open to the ocean naturally closing estuaries— Bolsa Chica Wetlands, Batiquitos Lagoon, San Dieguito Lagoon, Talbert Marsh, and the current plans for the Ballona Wetlands. Each time this is done, some of the native biodiversity and natural variation in California estuaries is lost (see our [detailed report](#) on this topic). And because these “restorations” are attempts to create a condition not supported by the physical processes of the place, they also involve incredible expense and energy to dredge these artificial openings to keep them from silting in.

Which brings us to a final point about the Malibu Lagoon project. The planning documents for the project indicate that if the tidal flows in the newly constructed channels falls below those at some reference marshes, then heavy equipment could be used (again) to make sure that the Lagoon behaves like the designers intended by dredging the channels. The reference marshes listed to trigger such actions are all systems that are artificially jettied open (Talbert Marsh, Batiquitos Lagoon, and Carpinteria Marsh) and are dredged to stop the natural process of mouth closure. Using these as references for Malibu Lagoon reflects that managers both misunderstand the natural dynamics of Malibu Lagoon — the flow in channels of a naturally closing estuary should not be expected to match that of one that is jettied open — and ensure that they will be

fighting those natural processes for years to come to get it to behave more like what they want it to be, instead of what it is. Furthermore, tidewater gobies are no longer found at these “reference” marshes, and could never be reintroduced because of management for a permanently open channel mouth.

If the restoration proceeds, and I sincerely hope it does not, I predict that it will fare little better than the previous attempt ending in 1983 on the metrics that motivate project proponents. In the short run it may increase dissolved oxygen and increase salinity (which would actually be a degradation of habitat for the original native flora and fauna adapted to a brackish marsh). In the long run, sedimentation will continue, nutrient levels will be high, water will stagnate in the channels, and it will be full of bacteria. We should only be upset about these things if they are caused by humans (e.g., polluted runoff and increased erosion from the watershed). These problems have to be dealt with before the water gets to the lagoon. Even if they are cleaned up entirely the lagoon might not meet arbitrary water quality standards, but then again it probably would not have met those standards 200 years ago either!

Certainly things could be done to promote native biodiversity at Malibu Lagoon. They should not, however, be premised around a misunderstanding of what the natural processes will support. And they should recognize that the native biodiversity of Malibu Lagoon is that associated with either the main channel or brackish marshes and stagnant water, not a fully tidal saltmarsh. The area where the parking lot was removed could be graded down and added to the wetland area, but there is no need or long-term benefit to reconfiguring the channels into some idealized saltmarsh form as if it were San Francisco Bay. Even as rare as saltmarsh habitat is in California, the brackish and freshwater wetlands of the naturally closing systems (which historically were the majority) are even more rare and we should resist the temptation to homogenize them.

To claim that Malibu Lagoon is “dying” is to fail to grasp what kind of wetland it is. It is not dying. It is simply approaching equilibrium with the physical processes of the watershed and some people have decided that they would prefer a different type of wetland. The lagoon supports significant biodiversity, just not the same species as one would find in a permanently tidal salt marsh. We should no more expect a seasonal creek to be river or a meadow to be forest than to expect a lagoon that is closed to the ocean for half of the year to have the same water characteristics as those that are flushed year round by the ocean. The current “restoration” will be destructive to the natural community that has developed since the first dredging project (including the extremely successful reintroduction of endangered tidewater gobies), have obvious impacts to the waterfowl that use the lagoon for nesting and foraging, and provide little benefit that could not instead be achieved in a far less destructive manner.

About the Author*

Dr. Travis Longcore is Science Director of The Urban Wildlands Group and President of the Board of Directors of the Los Angeles Audubon Society. He is also Associate Research Professor at the University of Southern California Spatial Sciences Institute and Associate Adjunct Professor at the UCLA Institute of the Environment and Sustainability where he has taught, among other courses, Bioresource Management, Environmental Impact Analysis, and the Environmental Science Practicum. He was graduated *summa cum laude* from the University of Delaware with an Honors B.A. in Geography, holds

an M.A. and a Ph.D. in Geography from UCLA, and is professionally certified as a Senior Ecologist by the Ecological Society of America. He has worked with research teams to describe the historical ecology of rivers and estuaries along the southern California coast, including the San Gabriel River, Ballona Creek, Santa Clara River, Ventura River, and Ventura County coastal wetlands. These reports can be downloaded at: <http://www.urbanwildlands.org/longcore.html> in the “Historical Ecology” section.

* Affiliations are provided for identification purposes only and do not indicate endorsement by any organization, institution, or individual.



Consulting, Municipal & Environmental Engineers
Planners ■ Surveyors ■ Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 ■ Fax: 732.383.1984

October 12, 2010

Ms. Bonnie Neely, Chair & Mrs. Mary Shallenberger, Vice Chair
& Mr. Jack Ainsworth, Deputy Executive Director
California Coastal Commission
45 Fremont Street
Suite 2000 San Francisco, CA 94105-2219 (also sent to Ventura Office via Amber Tysor)

RE: Comments regarding the CCC Staff Report
Malibu Lagoon Restoration and Enhancement Plan
Application No. 4-07-098
Agenda Item W6a

Dear Ms. Neely, Ms. Shallenberger, Mr. Ainsworth and Commissioners:

I write on behalf of the Wetlands Defense Fund regarding Item W6a on the Commission's agenda for October 13, 2010, described as implementation of a Wetland Habitat Restoration and Enhancement Plan for Malibu Lagoon. The Staff Report recommends approval of a Coastal Development Permit for the above referenced project proposed by the California Department of Parks and Recreation for a portion of Malibu Lagoon State Beach in the City of Malibu. This Plan is the result of many years of effort on the part of agencies, scientists, a Technical Advisory Committee, and dedicated, well-intentioned individuals. The Plan, however, is based upon a number of conceptual and factual errors that have seriously impacted the planning process, resulting in a proposal that should not receive a Coastal Development Permit without further consideration and redesign.

We have reviewed the *Malibu Lagoon Feasibility Study Final Alternatives Analysis* (Moffatt & Nichol 2005); the *Malibu Lagoon Restoration & Enhancement Plan* (the Plan) (Moffatt & Nichol 2005); the EIR based on a modified version of the proposed Plan (Jones & Stokes 2006); the CCC Staff Report based on further modifications of the Plan (Tysor 2010); and various ancillary documents. The ongoing evolution of the Plan and planning process has resulted in an incomplete environmental review and has provided a challenge for those conducting an analysis of the proposed project due to its complexity and changes. Nonetheless, there are many apparent problems relevant to all versions of the Plan, which we herein identify and review, and for which we provide a series of alternate solutions presented as the "*Malibu Lagoon Conceptual Wetland Rejuvenation Plan*".

Due to the short time period provided for public review of the Staff Report, the analysis below was necessarily limited and provides a non-comprehensive list of problems with the applicant's Plan and associated environmental documents.

Professional experience

My professional background includes 25 years of experience in restoration ecology, including the enhancement, restoration, and creation of wetland and upland habitats, as well as various biological investigations in central and southern California. I also have over forty years of experience in conducting research on and evaluations of estuaries of the east and west coasts of the United States, which provides a valuable dual-coast perspective on the structure, function, and management of these ecosystems. During my 26-year employment at UC Santa Barbara ending in 2004, I served as the Executive Director of the Museum of Systematics and Ecology, the Director of Carpinteria Salt Marsh, and the associate Director of the UCSB Natural Reserve System. During the past ten years I have served on relevant committees including the Southern California Wetlands Recovery Project Science Advisory Committee; the Ballona Wetlands Restoration Project Science Advisory Committee; and the Ormond Beach Wetland Restoration Project Design Review Group. Hence I have long-term experience in managing facilities and reserves including estuaries, and participating in agency-sponsored restoration efforts, which provide relevant experience to review the resources of and conservation proposals for Malibu Lagoon State Beach. My curriculum vitae is attached.

Context and functioning of Malibu Lagoon

Estuaries along the coast of central and southern California are unique unto themselves because of their individual geographic location, watershed characteristics, and type of geomorphic opening to the ocean. Depending on the combination of factors, their biogeochemical processes, hydrological and hydraulic processes, and resulting biological diversity can be quite different among the historic and extant examples. For example, plants and animals reach their geographic limits at different latitudes along the coast, occurring in different salinities characteristic of different estuarine environments. It is possible, however to group estuaries into several broad categories based on a combination of these characteristics.

Malibu Lagoon is typical in many ways of the “river and stream mouth” category characteristic of portions of the West Coast of the United States, which includes estuaries that are connected seasonally to the open ocean. When their mouths are closed to the ocean, and hence the estuaries do not receive tidal inundation during this significant amount of time each year, the estuaries are characterized by a slightly brackish (oligosaline) rather than a brackish (mixosaline) or hypersaline environment (more saline than sea water). Other examples of this category include San Antonia Creek Estuary in Santa Barbara County and the Ventura River Estuary in Ventura County. These examples collectively have some biotic components that are different because of their geographic location, but they also have many biotic components in common because of their similar biogeochemistry and mouth geomorphology. This difference can be accentuated by the augmentation of freshwater from urban runoff and sanitary effluent, but the fundamental differences remain similar.

The categorization of estuaries is alluded to in the Plan, EIR, and Staff Report, but is mischaracterized when the flora of the river and creek mouth types is stated as being depauperate as compared to other southern California estuaries of different categories. This comparison is not appropriate as long as a set of caveats is not included regarding the lumping of dissimilar estuarine environments resulting in an artificial and potentially unsustainable combination of features. Nonetheless, Ambrose and Orme (2000) state, “*Despite its small size, irregular*

topography, and unusual vegetation patterns, the restored salt Marsh is used extensively by wildlife, particularly by fish and birds.”

Fundamental mischaracterization can have profound implications during the development of restoration and enhancement plans, as noted below. The functional capacity of Malibu Lagoon as a river and stream mouth category of wetlands, rather than being enhanced by the subject Plan, would be significantly diminished and degraded. There is no effective way presented in the Staff Report to mitigate or replace the temporal and likely the long-term damage to the existing important ecosystem functions currently characteristic of the Malibu Lagoon wetlands.

Floristic diversity and vegetative cover

The Plan, EIR, and Staff Report all conclude Malibu Lagoon has low native floristic diversity and a high proportion of weeds. Strictly speaking this may appear to be true to the untrained eye, but comparing what parts of the estuarine ecosystem at Malibu to other similar estuaries rather than all estuaries? Broad areas of the estuarine, transitional, and upland habitats at Malibu are covered by a high preponderance of native species, with either scattered individual non-native species or patches of non-native species forming a significantly lesser amount. This is quite a different phenomenon than what one is lead to believe by reading the Plan, EIR, and Staff Report. The great majority of the floristic biomass is represented by native species and a reasonable representation of the flora for this type of estuary does not make it as degraded or floristically depauperate as portrayed by proponents of the proposed restoration and enhancement plan.

This is not to say that the Malibu Lagoon has a complete component of plant species that would likely be represented at other estuaries within the river and stream mouth type. For example, Salt Marsh Baccharis (*Baccharis douglasii*), Western Golderod (*Euthamia occidentalis*), Alkali Ryegrass (*Leymus triticoides*), Yerba Mansa (*Anemopsis californica*), American Three-square Bulrush (*Schoenoplectus americanus*), and Three-square Bulrush (*Schoenoplectus pungens*) are representative species one might expect to find a Malibu Lagoon but are not reported as part of the current flora (Yerba Mansa was planted recently in the bioswales). Most of the plant species also are not included in the plant palette of the proposed restoration and enhancement plan.

Submerged aquatic vegetation

Submerged aquatic vegetation (SAV) includes rooted flowering plants that generally do not emerge from the water column of a particular habitat. When the species that compose this vegetation occur in estuarine or marine environments they are also known as seagrasses. In the estuarine environment of central and southern California, for example, examples include Horned Pondweed (*Zannchellia palustris*), Sago Pondweed (*Stuckenia pectinata*, previously *Potamogeton pectinatus*), Wigeon-grass (*Ruppia maritima*), and Spiral Wigeon-grass (*Ruppia cirrhosa*). SAV contributes important ecosystem functions in the estuarine environment including habitat for invertebrates and fish, food for waterfowl such as dabbling ducks and geese, and healthy water quality attributes including oxygenating the water column and assimilating nutrients.

The status of SAV is currently of national interest (e.g., Thayer et al. 1997, Fonseca et al. 1998) not only because of its high and multifaceted ecosystem structural and functional importance, but also because of its widespread decline in the estuarine environment due to a multitude of impacts or combinations of impacts such as sedimentation, nutrient enrichment, competition from algae, and mechanical impacts from boating, fishing, and personal watercraft. Loss of SAV is most certainly a significant impact to aquatic invertebrate populations, nursery habitat for fish, and food chain support for waterfowl. In many estuaries, loss of SAV also can have a profound impact on economically important fisheries. Because of the importance of SAV and significant losses in many coastal regions, some states have passed SAV rules (Thayer et al. 1997) that regulate the activities in or adjacent to mapped SAV habitat or potential habitat.

As with many estuaries in the same category, Malibu Lagoon supports a population of Spiral Wigeon-grass, also known as Spiral Ditch-grass (*Ruppia cirrhosa*). This species is generally confined to interior saline ponds and lakes and along the coast to estuaries that are only slightly brackish. In relationship to the Plan the Commission is considering, Spiral Wigeon-grass apparently has been misidentified as Wigeon-grass (*Ruppia maritima*) in the various reports regarding the flora of Malibu Lagoon, including those associated with the proposed project. Wigeon-grass is apparently more typical of saline and seasonally hypersaline estuaries or coastal ponds such as at Devereux Slough, Campus Lagoon, and Carpinteria Salt Marsh in Santa Barbara County. It is not generally correlated with Tidewater Goby due to the plant's preference for environments at least seasonally too salty for this protected fish. We have been informed that the presence of this important aquatic plant species has been dismissed by some of the project proponents, apparently linking it mistakenly to the presence of dense macrophytic algae, which is often a sign of poor water quality. The presence of dense stands of Wigeon-grass in the estuarine environment in the region, however, represents a high quality habitat for many estuarine animal species and several levels of food-chain support function. The western marsh complex at Malibu Lagoon provides a strong example of such as high quality submerged aquatic habitat.

Salinity measurements taken in the channels of the western marsh at Malibu Lagoon, which were dominated by Spiral Wigeon-grass on October 5, 2010, ranged from 3 – 7 ‰, whereas the near-shore open ocean approximated 33 ‰, a typical ocean reading for the region. In the western and eastern portions of the proposed project, extensive stands develop by late summer and fall and are important habitat for aquatic invertebrates and fish, including the federal and state listed Tidewater Goby (*Eucyclogobius newberryi*). I have found a strong correlation between the occurrence of Spiral Wigeon-grass and Tidewater Goby - i.e., if Spiral Wigeon-grass is present there almost certainly will be a population of Tidewater Goby. This finding was also reported in the Recovery Plan for the Tidewater Goby (USFWS 2005). Dagit and Swift (2005) reported Channel C of the west marsh complex was habitat for foraging and protection of Tidewater Goby based upon their fish survey in June 2005. They extrapolated the same was true for Channels A & B. The Tidewater Goby is an important indicator of the health of the unique low salinity brackish water conditions characteristic of many California estuaries (Capelli 1997).

On a recent visit in October 2010 to the Malibu Lagoon, we observed an abundance of aquatic invertebrates, important food for Tidewater Goby, within the stands of Spiral Wigeon-grass in the west marsh. Project review letters provided by NMFS (McInnis 2006) and USFWS (Noda

2008) both acknowledge the importance of SAV for fish habitat, and the USFWS (Noda 2008) includes SAV within the parameters of critical habitat for the Tidewater Goby. Numerous waterfowl including Mallard and Brant also were observed eating the submerged plants. It is quite clear the SAV beds at Malibu Lagoon are an important resource.

The applicant's Plan with its proposal to remake the western complex, will result in long-term negative impacts to SAV, and as a consequence there is an unexamined risk of long-term negative impacts to the Tidewater Goby, as well. The aim of the Plan is not to restore the existing habitat but to create a new wetland and lagoon ecosystem complex. Even if successful, this new complex is not likely to support the same cover and quality of SAV that currently exists at Malibu Lagoon. No mention of SAV cover and functions are mentioned in the goals of the project and no SAV species are listed in the proposed plant palette.

Unfortunately, SAV was not identified or discussed as a plant community, vegetation, or resource of importance within any document that is related to the proposed restoration and enhancement plan including the Plan, EIR, or Staff Report. In fact the plant community is either absent from the documents and their associated analyses or, as in the case of the EIR and Staff Report and included letters of support, is only mentioned in passing within the benthic community and macrophytic algae discussions where it is considered evidence of poor water quality. This lack of treatment of a critical component of the Malibu Lagoon environmentally sensitive habitat area (ESHA) designation brings into question the entire planning and review process and likely warrants a new environmental review because the potential impacts to the SAV beds and their critical ecosystem functions were not addressed. Also, no mitigation measures are identified or analyzed in the Staff Report to compensate for temporal and long-term impacts to SAV.

Current status of wetlands and aquatic habitats at Malibu Lagoon

Contrary to the many allegations and characterizations in the Staff Report and EIR that describe the widespread degradation of wetland and aquatic resources and ecosystem functions at Malibu Lagoon, evidence provided herein suggests a different portrayal of the situation for significant portions of the ecosystem. The habitats are not as degraded, the biota is not as depauperate, and the functions are not as low as suggested in the Plan, EIR, and Staff Report for the proposed restoration and enhancement plan. In fact, for some resources such as the protected Tidewater Goby and its associated SAV beds, the quality of the ecosystem is high and of regional significance. The channels, channel banks, and adjacent marsh habitat each exhibit high capacity for numerous estuarine functions. Hence impacts to various resources and functions from implementation of the proposed Plan, in whichever form it has been presented in the various documents over the past five years, have either not been adequately addressed or not addressed at all. Additionally, the purported benefits of the Plan – to improve a wetland area that is in fact not severely degraded – are therefore mischaracterized and overstated.

Malibu Lagoon Conceptual Wetland Rejuvenation Plan

The Staff Report regarding the applicant's Plan fails to consider feasible and viable alternatives to the proposed project that would be less environmentally damaging to the existing conditions

of the western wetland complex. There are numerous environmental enhancements that would rejuvenate the existing conditions including habitat and water quality without the grading of approximately 88,000 cubic yards of wetland and upland habitats and soils.

Rather than completely remove all estuarine organisms, salvage some plants, recontour the entire area of the previous wetland restoration site, and implement a new plan that does not take into account the importance of the existing conditions, on behalf of the Wetlands Defense Fund, we propose a different approach, which would result in a rejuvenation of existing conditions (see attached Plan). This Rejuvenation alternative also will improve habitat and water quality as well as or better than the proposed project before the Commission. The following actions that characterize this alternative plan are flexible in combination and phasing, and are arranged according to the major habitat and access areas illustrated on the attached *Malibu Lagoon Conceptual Wetland Rejuvenation Plan*:

- Channel (& SAV) Habitat

- Issues: Existing conditions in the western and eastern wetland complexes include some accumulation of sediment and organic material during the past 20 years since the previous restoration project, which has contributed to a localized decrease in circulation. Emergent vegetation has grown over the banks due to the seasonal ponding.
- Solutions: Conduct a phased, channel by channel enhancement project by, for example, hydroraking (see attached photograph) or other rejuvenation activities that preserve the channels, remove accumulated sediment to a desirable depth, and reduce emergent vegetation growing over banks into the channels. Use of a hydrorake is standard practice in shallow water environments such as lakes and lagoons where sediment and organic material has accumulated, impacting habitats and water quality. Also, old channels could be reconnected and new connections could be added to existing channels, as feasible, to increase circulation. For example, one alternative is to connect the two portions of the north channel (north and south of Pacific Coast Highway). Also, a new alternative channel through portions of the proposed expanded marsh would likely increase circulation in the northern portion of the expanded marsh. None of these actions require widespread alteration of the habitats and long-term disruption of the estuarine ecosystem.

Investigate further and find solutions for the extensive water quality problems within the Main Channel that are not anticipated to improve substantially as a result of the proposed project. The Main Channel, for example, can exhibit signs of serious pollution problems (e.g., dense algae), which are not simultaneously exhibited by the channels of the western marsh complex under existing conditions. See attached aerial photograph, which shows evidence of extensive macrophytic algae in the Main Channel but not in the western marsh complex. Financing would perhaps be better spent on improving water quality in the Main Channel.

- Timing: Because of the environmental sensitivity of channel habitat for Tidewater Goby and SAV species (*Ruppia cirrhosa*), the hydroraking would likely take

place in the late fall or winter and before the estuary mouth breaches. This would allow the hydrorake to float, removing sediment after the SAV vegetation is mostly senescent, and following seining of the Tidewater Goby, as permitted and after the primary breeding season of this endangered species is over. Each of the three channels would be hydroraked in successive years, minimizing disturbance and potential impacts to the total SAV resource (only 1/3 of the channel habitat would be impacted annual over three years). Monitoring of the process would occur annually to evaluate the recovery of SAV and the response by the Tidewater Goby population.

- Emergent Marsh Habitat

- Issues: Invasive species occur in various portions of the emergent wetland, as identified in the proposed project review documents. Fill soils characterize underutilized sites once characterized by estuarine wetland habitats.
- Solutions: Invasive species would be removed manually to eliminate the need for herbicides. Invasive species growing along channel banks would be removed in part by the hydrorake. In some locations where habitat elevations may be too high, such as the center of some wetland islands, manual removal of some small quantities of the vegetation may improve the conditions for native wetland species. Invasive species were removed successfully from a small wetland island (locally known as Lori's Island) adjacent to the Main Channel in the western wetland complex but not shown on the attached plan. Approximately two-acres of new emergent wetland would be created south of the parking and amphitheater area. This expansion of existing wetland is similar to the creation of new habitat proposed in the applicant's plan. Additional channel habitat and public access are also part of the proposed approach. Existing vegetation emergent from channels, including bulrushes, tules, and cattails, would be enhanced with additional species and cover in some areas, increasing the likelihood of nutrient assimilation by these hydrophytes.

- Wetland Transitional Habitat

- Issues: Invasive species occur in various portions of the wetland transition habitat, as identified in the proposed project review documents. The native flora of the transition zone is missing a number of species that would be expected to grow at the site.
- Solutions: Invasive species would be removed manually to eliminate the need for herbicides. Invasive species growing along channel banks adjacent to transition zones would be removed in part by the hydrorake. Native species typical of the transition habitats of this type of estuary but absent from Malibu Lagoon (e.g. Salt Marsh Baccharis, Western Goldenrod, Alkali Ryegrass, and Yerba Mansa) would be planted to help enhance the existing conditions. Western Goldenrod is a showy, native species important for insect nectaring (e.g., butterflies and bees) so the conditions for terrestrial insects and food chain support, as well as site aesthetics, also would be enhanced. The enhanced transitional habitats may also

be appropriate areas to experiment with the translocation of sensitive plant species such as the endangered Ventura Marsh Milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*) and Salt Marsh Bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*), and a species of special concern, Salt Marsh Daisy (*Lasthenia glabrata* ssp. *coulteri*).

- Dune Habitat

- Issues: No dune vegetation typical of the region of exists at the mouth of Malibu Lagoon. Fill soils underlying some of the Aeolian sands may hinder efforts to restore the dune habitat. The proposed sites are dominated by non-native weedy species.
- Solutions: Certain portions of the underutilized habitats at the western side of the mouth adjacent to the western wetland complex provide an opportunity to recreate dune and dune scrub habitat, a resource that was once common along the Malibu coast. Recreated dune habitat might eventually support sensitive species such as Globose Dune Beetles, Ciliate Dune Beetles, and even the Silvery Legless Lizard, which might still be present in some of the sandy soils in the vicinity of Malibu Lagoon. Native perennial grasses such as Alkali Ryegrass and Saltgrass may also help establish and stabilize the dune habitat in proximity to wetland habitat. The eastern margin of the mouth of the estuary also could be evaluated for possible creation of dune habitat.

The proposed applicant's Plan would establish dune-like habitat (coastal strand) along the inland side of the newly created wetland. The resulting habitat of the applicant's Plan is likely to be difficult to maintain because it would be isolated from coastal processes necessary to create and maintain dunes and coastal strand complexes. Unlike the proposed Plan, our alternative for dune habitat is closer to the shorelines where sand dunes are created by wind and coastal processes.

- Upland Habitat

- Issues: The previously planted upland habitats have not been maintained sufficiently resulting in an accumulation of dead material (gradually being removed now) and spread of non-native shrubs and herbaceous species.
- Solutions: Upland habitat in the vicinity of the western wetland complex would be enhanced by removal of dead material and gradual replacement of existing shrubs with lower-growing native shrubs such as Coast Goldenbush (*Isocoma menziesii*), which has been included in the landscaping for the new parking and observation area. Plants such as Coast Goldenbush also will add more color to the landscape and will attract more insects such as butterflies than currently inhabit the State Beach.

The applicant's plan for upland habitats has many similar components. The desire to have less fire fuel in the landscape is accomplished by converting portions of the native scrub that is overgrown to low-growing and less fuel producing species.

Other candidate species include, for example, low-growing native shrubs such as Sawtooth Goldenbush (*Hazardia squarrosa*), California Daisy (*Lessingia confertiflora*), Sea-cliff Buckwheat (*Eriogonum parvifolium*), and native perennial grasses such as Purple Needlegrass (*Nassella pulchra*) and California Barley (*Hordeum brachyantherum* var. *californicum*). Existing and additional taller-growing shrubs appropriate for the site could be maintained in clusters at appropriate areas. The reduction and fragmentation of the fuel load will accompany an aesthetic and higher functioning upland portion of the coastal habitat complex.

- Public Access

- Issues: Public access and interpretation/education programs are a vitally important component of coastal ecosystems that interface with communities, parks, and corridors. Both the applicant's Plan and the conceptual plan presented herein focus on the public component. The existing conditions include trails and bridges providing two access paths to the beach. One of these trails runs through the lagoon with wooden bridges and provides an experience within the ecosystem that is unparalleled. Previous attempts to provide interpretive and education experiences are now minimized due to the removal of posted materials.
- Solutions: To retain the existing two-path system and still expand wetlands into fill areas, we propose a boardwalk system through the proposed created wetland, with two new bridges over a proposed channel, to connect the parking area to the existing trails and the beach. We support the need for interpretation and observation areas, but these features should face the habitats and resources relevant to the theme, such as at Carpinteria Salt Marsh Nature Park, rather than be placed along the proposed wall away from the wetland and upland habitats and wildlife. While a newer, more attractive border fence may be in order between private and public property, an opaque wall is neither visually pleasing nor supportive of wildlife connectivity principles.

The present access system has been in place for two decades and presence of passive human activities in proximity to resident and migratory wildlife is the stable existing conditions. The plan proposed herein maintains and enhances this condition for this important access and interpretation feature without increasing impacts to habitats and wildlife.

- Malibu Lagoon Management and Maintenance Manual

The current conditions at the State Beach suffer in part from a lack of appropriate management of the natural resources, possibly exacerbated by diminished funding of State Parks. We propose the preparation of a Management and Maintenance Manual that would provide guidance to park staff and volunteers, focusing on the natural resources and public access programs. Created environments in urbanized regions generally require ongoing management activities and are rarely self-

sustaining systems. Eradication or control of non-native species, recovery of rare and endangered species, response to catastrophic events, monitoring water quality, maintenance of public facilities including trails and bridges, creation and management of a docent program, and removal of trash, are among the activities that would be included.

The overall Rejuvenation alternative described herein would retain the non-controversial elements of the applicant's project. These would include, for example:

- An enriched coastal-scrub palette, with many low-stature plant species, to attract more terrestrial insects, to open views, and to reduce fuel load.
- An enhanced transition wetland habitat with an increased plant palette of appropriate species.
- Improved circulation, including tidal circulation when the estuary mouth is open.
- The coastal access route along the western and southern margins of the site.
- An enhanced interpretation program.
- A temporary native plant nursery, to be managed by professional staff, to provide appropriate healthy plants for the project.

Recommendations

We recommend the Commission proceed as follows:

- Deny the applicant's request for a CDP to implement the proposed Malibu Lagoon Restoration and Enhancement Plan, based on an inadequate alternatives analysis, environmental review, and impact assessment.
- Request the applicant to redesign the proposed project considering the alternatives included herein.
- Request a new alternatives analysis including the redesigned project.
- Request a new environmental review of the redesigned plan including resources and information contained herein.
- Address and find solutions for the water quality problems within the main channel, an ongoing and serious issue, which will not be substantially improved by implementation of the proposed project.

Thank you for your consideration of our proposals and recommendations. Please contact us if you have any questions or would like to discuss the material contained in this letter.

Very Truly Yours,

MASER CONSULTING P.A.

Wayne R. Ferren Jr.
Project Manager
Ecological Services

CC: Marcia Hanscom, Wetlands Defense Fund; James Birkeland, Esq.

Attachments

Document: 10001114A/Letters/FerrenLetterReport10-12-10/

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San Fernando Valley Audubon Society

Incorporated as California Audubon Society 1913

P.O. Box 7769 Van Nuys, CA 91409-7769

“For nature education and the conservation of wildlife”

October 11, 2010

California Coastal Commission
Attn: Amber Tysor
89 South California Street, Suite 200
Ventura, CA 93001-2801

Re: Malibu Lagoon Phase II

At our General Board of Directors meeting in September 2010 the San Fernando Valley Audubon Society made and passed a motion to oppose Phase 2 of the Malibu Lagoon restoration project. Our primary concern is over what is certain to be at least 1 year (probably more) of devastating impacts to the birdlife with no assurance that the hoped for end result will be any better than the current conditions. We are also concerned that, even if the project meets all desired results, whether or not any benefits are realized, one single storm event could wipe out all of this work, and require additional human disturbances, and expenses, to bring it back to the newly manufactured condition.

The Malibu Lagoon ecosystem is still recovering and adapting to the last major man-made hydrological fix. It is still attracting new bird life every year. The natural systems are finally beginning to overshadow the impacts of that human engineered attempt at creating a wetlands habitat. Do not erase what nature has recently accomplished, with another attempt to improve upon the faulty template that we created with a new unproven template for nature to start all over with.

We recommend the “No Project Alternative”. The removal of non-natives, and additional re-vegetation with native plants is desirable and can continue without approval of this project. The removal of 13,700 cubic yards of material from the Lagoon may, or may not, improve the hydrology sufficiently to clean the water to an arbitrarily determined desirable level. The only thing for certain is that (if this project goes forward) the open sore that we created will be re-opened and remain open for a little longer.

Sincerely,

Kris Ohlenkamp
Conservation Chair

California Coastal Commission
Attn: Amber Tysor
89 South California Street, Suite 200
Ventura, CA 93001-2801



PASADENA AUDUBON SOCIETY

Founded April 1904

1750 N. Altadena Drive

Pasadena, CA 91107

WWW.PASADENAAUDUBON.ORG

Re: Malibu Lagoon Phase II

The mission of the Pasadena Audubon Society is “To bring the excitement of birds to our community through birding, education, and the conservation of bird habitats.” While we support the idea of restoring Malibu Lagoon, we also have some concerns about the current plans to do so because they seem to overlook some remarkable educational opportunities that the Lagoon offers, and because they will devastate the Lagoon, with no guarantee that they will truly benefit the Lagoon. Therefore, we ask that the Commission delay this plan so that all parties and stakeholders can work together to find a less destructive and more educational solution.

Our first concern is educational. The destruction of the bridges removes a wonderful and unique opportunity for the community to observe and experience nature close up. Rather than removing them, why not redesign them so that they do not impede the flow of water, and why not provide educational signage so that the public can learn more about the ecology of Malibu Lagoon? Places like this, where people can get very close to nature without disturbing it, are rare, and that should be protected and enhanced, not removed.

Our second concern is that the current plans will kill many of the fauna that live here. While some of the birds can fly away, one must wonder where they will go. The other areas that can support these birds are already full. And what about the rarer birds like the Sora that my son and I saw (from one of the bridges!) there a couple of weeks ago? Where can they go? Isn't it just possible that there is a kinder and gentler way to improve the water flow of the Lagoon, one that does not require draining and bulldozing the Lagoon right at the height of nesting season? And if improving water quality is the goal, then shouldn't plans include improving the quality of the water that flows into the Lagoon? Without doing that, the water quality will not improve much, if at all.

We recognize the desire to improve the habitat at Malibu Lagoon, and we applaud the goals to improve water quality and the ecology of the area. We simply ask that the Commission delay these current plans so that a more ecologically friendly plan can be developed.

Thank you,
Laura Garrett
Conservation Chair
Pasadena Audubon Society

To bring the excitement of birds to our community through birding, education and the conservation of bird habitats.

ROBERT ROY VAN DE HOEK
CONSERVATION BIOLOGIST

October 13, 2010

The Honorable Bonnie Neely, Chair,
The Honorable Mary Shallenberger, Vice Chair
& Jack Ainsworth, Deputy Director
California Coastal Commission
c/o Amber Tysor, Ventura Office ~
sent via email and facsimile and also distributed by hand to Commissioners

re: Application #4-07-098, Malibu Lagoon proposed project, phase 2.

Dear Commission Chair Neely, Vice Chair Shallenberger, Commissioners, Mr. Ainsworth and Ms. Tysor:

I write on behalf of the Ballona Institute and Wetlands Defense Fund to express objections to the referenced item above. These objections are based on the best available science, particularly conservation biology, ecology, restoration ecology, and endangered species science. We disagree with staff, both in their recommendation, as well in the analysis, and apparently, staff did not have all of the relevant information available to make a better-informed decision, and that is where we begin with our comments.

During the last 12 years (1999-2010) of continuous and ongoing direct scientific observations at Malibu Lagoon, within the proposed project area, in all four seasons of the year, including very relevant recent observations in the last week, on October 5 and 11, 2010, just prior to the hearing date of October 13, I have observed that the water is healthy (see below) and there is abundant animal life and plant life that is native and natural as wildlife and wildflowers, with some of this life on the endangered species list of the United States and California, and some this life is extremely rare and sensitive and recognized both the U.S. and California as rapidly sliding toward extinction, but not yet on endangered species lists. I have not witnessed any evidence of water stagnation or low dissolved oxygen that would be harmful to animal life or plant life, in fact I wish to reiterate I characterize the water in the project area as healthy for plant life and animal life.

The most convincing evidence for the waters of Malibu Lagoon within the project area being healthy with an adequate amount of dissolved oxygen lies in the fact that I have always been able to observe in the last 12 years, an abundance of thriving submerged animal life and submerged plant life. The key factor to consider is that this thriving animal life is found attached and embedded in the submerged aquatic vegetation (SAV), particularly Spiral Wigeon Grass (*Ruppia cirrhosa*), and the animal life is also found in the submerged wetland soils, as infauna (buried) and as epifauna (soil surface). In conjunction with adequate dissolved oxygen in the water, there are the repeated observations over the last 12 years, that the water has excellent clarity (i.e. visually clear similar to filtered drinking water), except that there is animal life teeming in this clear water amongst the submerged aquatic vegetation (SAV). These combined facts, indicates beyond a doubt that there is adequate dissolved oxygen in the water for life, and that we cannot conclude that the water is stagnated. These observations have been made in the immediate vicinity of the pedestrian boardwalk-like bridges at Malibu Lagoon, as well as the backwater areas of the perimeter trail, and areas in between these places.

It is again very important to reiterate that the abundant aquatic animal life has been observed at all times of the year living submerged in the water, and can be verified by the abundance of specialized birds that feed on fish in the proposed project area, including herons, egrets, pelicans, terns, cormorants, and others, making them carnivores (piscivores) that see their prey through the clear water and the fish being found in the vegetation and in the open water swimming, with adequate oxygen.

One important feature to recognize about fish and the many animals without backbones that are also aquatic and submerged, is that they have gills that metabolize oxygen at the interface of the water and gills. The continuous presence of these animals with ability to breathe, or process oxygen via the gills, indicates an abundance of oxygen. The abundance of this dissolved oxygen supports the following animals without backbones, in several phyla, including Mollusca, Annelida, and Arthropoda. The vernacular names of some of these animals include: Dragonflies, Damselflies, and several snails. On October 6 and 11, 2010, I observed the larval exoskeleton fragments, by the hundreds on the stems of aquatic plants and emergent wetland plants, such as the California Tule. There can be no doubt, for example, that larval dragonflies, climbed up the stems of the aquatic reed-like vegetation, and then became adults on the stem, exposed in the air.

There is also an abundance of animals with backbones (vertebrates) and they include several species of fish, and add up to many thousands of individuals, further proof of adequate dissolved oxygen and water clarity (not stagnant). One of these fish is the Striped Mullet (*Mugil cephalus*), which adds oxygen to the water, as well as taking oxygen from the water with their gills. This unique

fish jumps from the water into the air, and the splash, when gravity brings them back into the water, adds dissolved oxygen into the water column. Interestingly, this fish is crucial to the productivity of lagoon waters and estuaries (Michael Horn, 2009, pers. comm. Ichthyologist-fish biologist at California State University at Fullerton), another feature of healthy waters. Lastly, related to fish and oxygen and stagnation in Malibu Lagoon, a fish known as the Tidewater Goby (*Eucyclogobius newberryi*), which has declined elsewhere in coastal California, thrives in Malibu Lagoon, with thousands of individuals being found there, a clear indication of healthy habitat, with adequate dissolved oxygen in the water, and not stagnant from the perspective of the Tidewater Goby. Keep in mind that the Tidewater Goby, although recognized as endangered with extinction by the United States Fish & Wildlife Service (USFWS), continues to slide toward extinction (Peter Moyle, 2002, Inland Fishes of California, pages 430-434 specifically, and the entire book generally; Peter Moyle, September and October 2010, personal communication). Therefore, the increase of the Tidewater Goby within the proposed project area, shows us eloquently that Malibu Lagoon is a success story and the proposed project represents a risk that I cannot fathom as a scientist, unless politics and economics has entered into the equation of the decision to dewater and dredge Malibu Lagoon, where the Tidewater Goby is abundant and will be eliminated, with a very high risk of extirpation (local extinction) permanently, as significant portion of the life history of the Tidewater Goby depends on this portion of Malibu Lagoon.

Sincerely,

Robert "Roy" van de Hoek, Conservation Biologist
Wetlands Defense Fund & Ballona Institute
322 Culver Boulevard, Suite 317
Los Angeles (Playa del Rey), CA 90293



Wetlands Defense Fund



Projects of the International Humanities Center

W6a

October 12, 2010

The Honorable Bonnie Neely, Chair,
The Honorable Mary Shallenberger, Vice Chair
& Jack Ainsworth, Deputy Director
California Coastal Commission
c/o Amber Tysor, Ventura Office ~
sent via email and facsimile and also distributed by hand to Commissioners

re: Application #4-07-098, Malibu Lagoon proposed project

Dear Commission Chair Neely, Vice Chair Shallenberger, Commissioners,
Mr. Ainsworth and Ms. Tysor:

I write on behalf of Wetlands Defense Fund and CLEAN (Coastal Law Enforcement Action Network) to express our strong objection to approval of the item referenced above. We disagree with staff, both in its recommendation, as well as in its analysis. It seems clear, however, that staff did not have the benefit of input from a full range of wetland experts and habitat specialists, and we hope by providing additional, relevant information, there might be room for a re-examination of the Project. Wetlands Defense Fund and CLEAN are nonprofit initiatives with the specific purpose to protect and enhance California wetlands

and coastal habitats. Our prior engagements have included efforts to protect streamside Environmentally Sensitive Habitat Area (ESHA) in Stokes Canyon, rare vernal pool wetlands at Isla Vista in Santa Barbara, and more generally, endangered and rare species of native flora and fauna, including the endangered Least Tern at its breeding grounds in Los Angeles. We have also provided funding to California State Parks for positive solar installations, as well as a habitat restoration of raptors at Montana de Oro State Park as a result of settlement of a coastal litigation effort to insure proper mitigation by a large utility firm. While we are often completely supportive of California State Parks and its efforts, on this Project we find ourselves necessarily objecting to their plans due to the proposed Project's negative impacts to a functioning coastal lagoon, rare and fragile by its very nature.

BACKGROUND

Malibu Lagoon, as it exists today, is of great ecological significance. The lagoon is a 31-acre shallow water embayment at the terminus of the Malibu Creek at Surfrider Beach, and it is one of the last remaining coastal wetlands within Santa Monica Bay. There is no dispute that the lagoon currently provides an important coastal wetland resource for both avian and aquatic species.¹

Yet, without fully recognizing existing ecological values, the Project proposes to remake the western complex of Malibu Lagoon with grading, dredging, and fill totaling 88,7000 cubic yards. This heavy-handed approach would have unavoidable and significant environmental impacts on the lagoon. The entire Project would occur in ESHA, and the majority of dredge and fill would occur in wetlands. Despite this development's obvious inconsistencies with the Coastal Act, project proponents consistently underestimate the full scope of significant wetland, biological, and other impacts.

Moreover, the Project poses to undermine benefits from prior restoration efforts. In 1983, the California Department of Parks and Recreation ("DPR") initiated a

¹ [*Jones & Stokes, Biological Assessment/Essential Fish Habitat Assessment for the Malibu Lagoon Restoration Project*, Nov. 2007, at 1.](#)

restoration of the lagoon (the “1983 Restoration”), which involved the 60,000 cubic yards of excavation to create three wetlands channels, restore approximately 7 acres of lagoon (the “western complex”), and create a series of boardwalks to allow for public access.² In 1996, the California Department of Transportation (“Caltrans”) funded another restoration plan to mitigate for impacts incurred from the Pacific Coast Highway Bridge Replacement Project; and that restoration program included a Tidewater Goby habitat enhancement project and a revegetation program. Both of these prior restorations resulted in successful enhancement of habitat for birds, the Tidewater Goby, and other species, and in improvement to public access to the sea. The Project would significantly impact these prior advances.

PUBLIC PROCESS

Contrary to the assertions of project advocates, the process of public participation has been flawed in several significant respects. In fact, Wetlands Defense Fund and CLEAN were not aware that that Phase II of the project (as opposed to just the Phase I parking lot renovation) was going to proceed at all until the Commission posted an agenda item early this past summer.

The genesis of the plan before the Commission was conceived of and planned largely behind closed doors, away from those of us who were informed and interested stakeholders of the Malibu Creek Watershed Council’s Malibu Lagoon Task Force. When members of the public first became aware that a “technical” committee was planning this project without the benefit of the informed public’s input, objections were raised.

In fact, the Malibu Lagoon Task Force agreed on a set of recommendations for action, which included moving the parking lot, removing nonnative plants and replacing with more appropriate natives (never considered doing with bulldozers or poisonous herbicides) and, most importantly, acquiring more land in the Malibu Creek floodplain, the details of which were articulated in a speech by

² [Coastal Development Permit No. P-79-5515](#)

Suzanne Goode of California State Parks to the City of Malibu. Her speech is available for viewing at: <http://www.youtube.com/watch?v=3LpzT1gPDhw>
By reference, we incorporate Suzanne Goode's comments in this letter and ask that those comments be considered part of the official record. In addition, please refer to the Ambros/Orme UCLA study which underscores these land acquisitions as priorities for cleaning the waters which flow to Malibu Surfrider Beach due to the acknowledged need to clean the upstream flows before they reach the lagoon. A fine example of the results of those priorities being paid attention to is the City of Malibu's acquisition of the site formerly known as the "Chili Cookoff site" and now recently dedicated as "Legacy Park," which does, indeed plan for capturing storm water flows and cleansing these waters before their arrival at Malibu Lagoon and Surfrider Beach.

After repeated objections to this "out of the blue" proposal from Heal the Bay's engineering contractor, as mentioned above, by numerous stakeholders, finally two people were allowed to attend one of these meetings at the office of Heal the Bay, but those two of us (which I was one) were not allowed to speak, only listen. Heal the Bay had received a \$250,000 grant from the State Coastal Conservancy to conceive of this plan, yet only Heal the Bay staffers, some selected advisors ("technical" committee) and agency representatives from State Parks and Coastal Conservancy were present.

It became apparent at that meeting that the plans this process had hatched would not be good for the lagoon's ecosystem. When the engineering firm presented these plans to the public, there was such outcry that the rest of the planning for this project apparently went even deeper underground.

A scoping notice for an environmental review process was sent out, which CLEAN commented on, but after that we never heard anything further about an environmental impact report, although one was completed and approved of. It is interesting to note that the main comment-makers on the EIR are government agencies, and it is surprising that more of the NGO stakeholders did not comment. Perhaps they were also not notified. We have inquired of adjacent residents and Malibu stakeholders like the Malibu Township Council and others, all of whom report they were not notified of the environmental review process.

*The Honorable Bonnie Neely, Chair, The Honorable Mary Shallenberger, Vice Chair
& Jack Ainsworth, Deputy Director ~ California Coastal Commission
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In addition, no federal Environmental Impact Statement (EIS) was completed, even though Malibu Lagoon is designated as “Critical Habitat” for the endangered Tidewater Goby, the federally-endangered California Least Tern uses Malibu Lagoon (including the western arms where we have viewed this feeding behavior for years) for post-breeding dispersal foraging for adults and their young, and other species listed on the endangered species list, like the Southern Steelhead and Western Snowy Plover either use the lagoon or adjacent habitat, being potentially impacted by this drastic, highly industrial project which would alter the lagoon and its natural processes significantly.

We are grateful to have the opportunity to now raise our concerns before the Commission.

NEW INFORMATION

Malibu Lagoon has a terrific diversity of habitat values, many of which have never been acknowledged or for which Project impacts have never been examined. This year alone numerous additional bird species were documented by expert ornithologists, including the presence of more than 300 Black Skimmers (listed as rare and of “national conservation concern” by National Audubon Society), which began nesting behavior, and several Belding’s Savannah Sparrows, a species on the State of California Endangered Species list. More than 200 bird species have been documented as having using Malibu Lagoon for some part of their life cycle, and numerous new species were sighted and documented this year, making the 2005 bird report which the EIR relied on outdated and in need of an update, especially due to the rare and endangered bird sightings this summer.

There are, thus, questions as to whether the National Environmental Policy Act (NEPA) was followed, whether the Endangered Species Act was properly complied with and whether the Migratory Bird Treaty Act would be violated if this project proceeds. And now, given the lack of comment on this process (due to staffing deficiencies) from the California Department of Fish & Game, California state laws protecting rare and endangered species have not been sufficiently analyzed.

Los Angeles Superior Court Judge James Chalfant has ruled that the Coastal Commission must consult with the California Department of Fish & Game in order to comply with CEQA, and the “sorry we can’t comment letter due to staffing deficiencies” letter does not adequately address the very concerns DFG raised in their scoping comments for the EIR, which were not adequately addressed in the EIR either.

INCONSISTENT INFORMATION

Fish Kills?: While Project proponents and the Commission’s staff report assert that this Project will fix a problem of low dissolved oxygen and “big fish kills,” the science reports relied on for this assertion conclude the opposite. For instance: in an excerpt from Page 207 of the UCLA Ambrose & Orme study:

“Probably the most important water quality limitation in Malibu Lagoon is the dissolved oxygen (DO) concentration. Species such as topsmelt have been shown to be intolerant of low DO but a low DO level of >4 mg/L is generally recognized as necessary for most species. Some species, such as the negative indicator *Polydora nuchalis*, tolerate low DO, but the positive indicator species apparently cannot. There is no extensive monitoring record of DO in Malibu Lagoon. However, Ambrose, et al (1995) report periods of low DO in association with algal mats in the Lagoon. Heavy algal cover and the consequent low DO have been associated with fish kills in some systems. However, **we have no well-documented records of extensive fish kills in Malibu Lagoon.** During the Ambrose, et al, (1995) fish in traps on the bottom of the Lagoon were killed during low DO episodes, but **widespread fish kills were not observed.**”

Still Water for Tidewater Goby: It is disturbing that the Coastal Commission might consider approving a project that would be so destructive of critical habitat for the Tidewater Goby and functioning habitat without reviewing in its entirety the record as it now stands. According to the US Fish & Wildlife Service Critical Habitat report, the Tidewater Goby requires STILL WATER, not moving water, as this Project plans for.

NO TIME GOOD FOR CONSTRUCTION DUE TO ENDANGERED SPECIES

The US Fish & Wildlife Service and National Marine Fisheries Service determined that there would be times when such a massive construction project would not be good for the endangered species which depend on Malibu Lagoon for food, breeding and other habitat needs.

The attached chart, found in the Coastal Commission's Ventura office files, demonstrates that there is really no time at all when this Project should be allowed to proceed, yet the most important breeding time for the Tidewater Goby, a fish on the United States Endangered Species List, was selected for draining and dredging of the lagoon, and impacts (including injury and death) to this species which is on the brink of extinction will be assured.

WILL THIS PROJECT MEET THE GOALS OF THE PROJECT PLANNING BY MALIBU LAGOON TASK FORCE?

On page 552 of Malibu Creek Watershed UCLA study by Rich Ambrose and Anthony Orme, which was the consensus document which arose from the stakeholder processes planning for improvements to Malibu Lagoon, the agreed on priority for restoration at Malibu Lagoon was determined to be to acquire more land in the Malibu Creek floodplain.

"the acquisition of potentially restorable land should be the highest priority for restoration and the first step in restoring the Malibu Lagoon ecosystem"

"The principle of giving highest priority to the acquisition of land before it is developed has been adopted by the Scientific Advisory Panel for the Southern California Wetlands Recovery Project, a consortium of state and federal agencies concerned with wetland restoration in southern California."

*The Honorable Bonnie Neely, Chair, The Honorable Mary Shallenberger, Vice Chair
& Jack Ainsworth, Deputy Director ~ California Coastal Commission
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Finally, we ask that you reject this project proposal and send the restoration idea back to California State Parks so that they can study and consider the genuine restoration alternative proposal put forth by expert wetland restoration scientist Wayne Ferren – a proposal that is based on the actual existing conditions of Malibu Lagoon and its important ESHA (Environmentally Sensitive Habitat Area) qualities which are required to be preserved and protected by law.

We remain hopeful that a project can move forward soon that will honor the ecological functions of Malibu Lagoon that apparently have been poorly misunderstood by many of those advocating for their destruction.

With best regards ~ and for the wetlands ~

Marcia Hanscom /s/

Marcia Hanscom
Director
Wetlands Defense Fund

&

Managing Director
CLEAN (Coastal Law Enforcement Action Network)

*Wetlands Defense Fund and CLEAN are
Projects of the International Humanities Center
Pacific Palisades, California*

1 **DECLARATION FROM ROBERT VAN DE HOEK IN SUPPORT OF INJUNCTION**
2 **FOR WETLANDS DEFENSE FUND**

3 I, Robert van de Hoek, declare as follows:

4 1. I currently serve as the science director of the Wetlands Defense Fund, a petitioner
5 in this case, and Co-Director of the Ballona Institute, both entities located in Los Angeles,
6 California. I am currently employed as an environmental educator and supervising naturalist
7 with the Los Angeles County Department of Parks and Recreation and have held this position
8 since 1996. My career has been largely dedicated to wetlands ecology and wildlife protection,
9 fish and avian biology, and environmental education. I have conducted field investigations of
10 the ecosystem at Malibu Lagoon on a regular basis for the last 33 years, most intensely for the
11 last twelve years.

12
13 2. I received my double Baccalaureate University Degrees in Environmental Biology
14 and Geography from California State University at Northridge (CSUN) (with a minor in
15 Geological Sciences) in 1986. In addition, I received an Environmental Horticultural Science
16 Certificate from El Camino College in 2005. I completed post-graduate studies at the
17 University of Nevada at Reno, in the Department of Hydrology, Wildlife, and Range Studies;
18 and I completed post-graduate studies at CSUN in Geography with a focus on Geomorphology,
19 Biogeography, Conservation, and Ecological Restoration. While a student at CSUN, I was
20 employed as an Ichthyologist (Fish Biology) Technician.

21 3. Previously I was employed as a professional wildlife biologist and archaeologist
22 from 1985 to 1993 with the U.S. Forest Service and U.S. Bureau of Land Management. From
23 1993 to 1995, I was employed as an Environmental Educator with the state of California at the
24 Resource Conservation District of the Santa Monica Mountains. In addition, I have been a
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1 science instructor from 1988 to 1991 at three California community colleges (Lassen College,
2 Bakersfield College, and Cerro Coso College) where I taught courses in Natural History and
3 Biology of Birds. And for one year in 1986, I was a science teacher in the Los Angeles Unified
4 School District.

5 4. My other professional licenses and credentials include: (1) a license as a recreation
6 professional from the Board of Certification of the California Parks and Recreation Society,
7 with my specialty in environmental education (2007 to present); (2) rated qualified as a
8 professional botanist with the U.S. Department of Interior (1992); and (3) rated qualified as a
9 wildlife biologist and botanist by the California Department of Fish and Game (1995).
10

11 5. The Ballona Institute, where I serve as Co-director, consistently receives high
12 recognition for its wetlands restoration and education work. In 2009 the Institute was honored
13 as part of World Wetlands Day by the U.S Fish and Wildlife Service (F&WS) , and the Institute
14 has received numerous commendations from the City of Los Angeles, County of Los Angeles,
15 the late State Senator Jenny Oropeza, State Assembly Member Ted Lieu, and U.S.
16 Congresswoman Jane Harman.
17

18 6. I am the author of more than 71 scientific reports, as well as an author in a book,
19 *California's Wild Gardens*, published by the California Native Plant Society, and my work has
20 been cited in many peer-reviewed scientific journals.
21

22 7. I have read the California Coastal Commission's staff reports and most of the
23 documents referenced in support for the Malibu Lagoon Wetland Habitat Restoration and
24 Enhancement Plan relied on as the basis for the Commission's approval of a Coastal
25 Development Permit for the project (the "Project").
26

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1 8. I base this declaration on my personal knowledge, field investigations, expertise, as
2 well as knowledge of the relevant scientific literature and various permit applications for this
3 project.

4 **HARM TO ENTIRE ECOSYSTEM**

5 9. Malibu Lagoon State Park, as it exists today, has a functioning ecosystem that
6 supports an impressive array of biodiversity. The lagoon provides shelter (homes) or foraging
7 areas for more than 200 species of birds, 12 species of fish, an estimated 1,200 species of
8 insects and other invertebrate animals, 154 species of plants with a predominance of the plant
9 cover approximately 80% by native plants, one species of amphibian, four species of reptiles,
10 and a conservative estimate of 12 species of mammals. Several of these species are endangered
11 or threatened, like the Tidewater goby, discussed below.
12

13
14 10. The lagoon ecosystem – especially in the western portion of Malibu Lagoon that is
15 slated by the Project for intensive dredging and fill – is unique in the area. This lagoon marsh
16 area has ideal conditions for submerged aquatic vegetation (SAV), including many floating
17 grass-like plants such as Wigeon Grass, which in turn support a vibrant and abundant number of
18 small invertebrate fauna of aquatic insects (dragonflies, damselflies, water beetles, etc.), small
19 aquatic crustacean animals (copepods, shrimp-like amphipoda, ostracoda, etc.), and mollusks
20 (snails). These species in turn support other organisms, higher on the food-chain, like fish and
21 birds. The lagoon also contains healthy brackish marsh and freshwater marsh vegetation habitat
22 that emerges high above the water, such as 17-23 foot reed beds composed of Cattail vegetation
23 and Tule Sedge-like vegetation, which avian ecologists and plant ecologists refer to as
24 “emergent vegetation.” Together, the emergent vegetation and SAV provide the home,
25 nutrients, and support systems for all of the other wildlife that currently exist in the lagoon.
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1 11. The Project would result in the loss of a rare and unique coastal complex of
2 wetlands, estuary, marsh, and adjacent coastal uplands – all of which have been designated by
3 the California Coastal Commission and the City of Malibu as ESHA (Environmentally Sensitive
4 Habitat Area) in the Malibu Local Coastal Program (LCP.) The Project proposes the large-scale
5 grading and fill of 88,700 cubic yards of living soil – along with the SAV and emergent
6 vegetation – that support the entire ecosystem. There is no dispute that plant life and smaller
7 organisms would be destroyed, but the Project would consequently also irreparably harm the
8 species that depend on this environment, such as the Tidewater goby.
9

10 12. In addition, because the Malibu Lagoon ecosystem is relatively unique in the area,
11 the Project would have long-lasting and irreparable impacts to the biodiversity not only at
12 Malibu Lagoon, but to the adjoining ecosystem of Malibu Creek, and the coastal areas up and
13 down the shore, north and south, east and west, of Malibu Lagoon. Many species in these
14 adjoining areas, especially birds, use Malibu Lagoon as a foraging and feeding area. As well,
15 migrating birds traveling to or from their breeding grounds stop at Malibu Lagoon, which offers
16 essential feeding and resting areas during these migrations.
17

18 13. The Commission’s staff report is deeply flawed with regard to recognizing, much
19 less analyzing, the habitat value of the existent lagoon. Nowhere, for example, does the staff
20 report adequately consider how permanently altering this unique ecology, with SAV and
21 emergent vegetation, would undermine the biological support system for, and cause irreparable
22 harm to, sensitive and endangered species in the area.
23

24 14. Moreover, the Project proposes to create deep channels in the western complex of
25 Malibu Lagoon, ultimately creating a new, different habitat than what exists today. These deep
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1 channels will not support the same quality of SAV and emergent vegetation, both of which are
2 ideally suited to and thrive in a shallow-water environment.

3 **HARM TO ENDANGERED SPECIES**

4 15. The Tidewater Goby (*Eucyclogobius newberryi*) is a member of the Goby Family of
5 fishes (Gobiidae). The U.S. Fish and Wildlife Service placed the Tidewater goby on the U.S.
6 Endangered Species List in 1994 and developed a Recovery Plan for the species in 2005.
7 Significantly, the population of Tidewater goby in Malibu Lagoon has increased from an initial
8 population in 1992 of 95 individuals, to an estimated 5000+ individuals in 2005, which is an
9 approximate 5000% increase, providing compelling evidence that the existing environment and
10 habitat is excellent for this endangered species. (Sean Manion 1992 report; Rosi Dagit & Camm
11 Swift 2005 report.)
12
13

14 16. Tidewater gobies thrive in submerged aquatic vegetation and are especially well-
15 adapted to stressful aquatic environments of low dissolved oxygen, often categorized
16 inappropriately as having “poor water quality.” This begs the question as to what “poor water
17 quality” is from the standpoint of the Tidewater goby and other species that excel and populate
18 profusely in such waters, such as dragonflies, damselflies, aquatic copepod invertebrates which
19 live by swimming in the plankton, and numerous additional species (circa 100 species). None
20 of these species were adequately studied in the Commission’s staff reports or supporting
21 documents even though these invertebrates are prey items to (food for) the Tidewater goby.
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24 17. The Project’s plan to re-engineer the lagoon and remove SAV, the supporting system
25 for the Tidewater goby, in which much of the food for the Tidewater goby lives, will cause

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1 irreparable harm to the species. The habitat would be permanently altered to the detriment of
2 this highly endangered fish, creating the risk of local extirpation.¹

3 18. The Western Snowy Plover (*Charadrius alexandrinus*) is also listed as federally
4 threatened by the F&WS. This species belongs to a group of birds called shorebirds, which
5 scientists place in the Order Charadriiformes. Malibu Lagoon provides the food for both the
6 adult Snowy Plover and young Snowy Plover. Since the beginning in 2009, a protective fence
7 is constructed each spring to facilitate and protect nesting Snowy Plovers on the beach closest to
8 Malibu Lagoon. The fence provides a temporary protective enclosure, with the current fence
9 appearing in the last few weeks. This is the second spring breeding season that a fence has been
10 placed at Malibu Lagoon beach with an expectation that nesting of the Snowy Plover will occur
11 in the next few months. And, in fact, nesting is expected to be in full swing at the beginning of
12 the proposed June 1 construction start of the Project.
13
14

15 19. Less than a week ago, on 26 March 2011, between 11:00 am and 1:00 pm, I
16 observed and photographed 18 Snowy Plover within the fenced area of the beach, not more than
17 30 meters from the boundary of the construction site. On 26 March 2011, I also observed light
18 pairing of the 18 individuals into 9 pairs. This species of shorebird nests colonially and is a
19 very social bird generally within its species during the balance of the year. Throughout
20 California, where nesting occurs for the Snowy Plover, there is always water near at hand since
21 this species feeds primarily on aquatic insects found at the water's edge and in very shallow
22 waters. There is every reason to expect the Snowy Plover to nest at Malibu Lagoon Beach
23 again this spring and summer.
24
25

26 ¹ Also significant, the Malibu Lagoon population of Tidewater gobies is of a unique genetic makeup,
27 transplanted originally from the Ventura River Lagoon. An aggressive competitor, namely the Shimofuri Goby,
28 is threatening to outcompete this sister-population in the Ventura River area (Moyle, 2002; pers. comm.. 1
October 2010), making protection of the Malibu Lagoon populations of Tidewater gobies of regional
significance.

1 20. The Project’s construction in close proximity to Snowy Plover’s nesting areas will
2 impact the behavior of the species to such an extent that there is a high risk of nest failure and
3 high risk of mortality to embryos of female Snowy Plovers. The high decibel noise of the
4 construction bulldozers and the diesel fumes will also have a high risk of contributing to
5 fledgling mortality and nesting failure. Additionally, the Project includes the building of a
6 “sand-bag dam-like wall” across the beach immediately adjacent to the project site. This wall
7 will prevent the movement of flightless young plovers from feeding at the Malibu Lagoon
8 shores. The water being pumped out of the lagoon will result in a loss of aquatic invertebrates
9 for the Snowy Plover, causing irreparable harm to this imperiled species. The risk of local
10 extirpation from Malibu Lagoon of this new colony of nesting species and local extinction in
11 Los Angeles County is consequently also heightened by the proposed project. There is no
12 mitigation proposed by the Project for these impacts to the Snowy Plover.
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15 21. The California Least Tern (*Sterna antillarum browni*) is listed by the F&WS as a
16 federally endangered species. This bird species currently does not breed at Malibu Lagoon, but
17 is likely to nest there in the future. This likelihood is because the current sand bars in the
18 lagoon, largely void of plant vegetation, are ideal for enticing the California Least Tern to nest
19 at Malibu Lagoon.
20

21 22. The California Least Tern currently nests each summer, approximately 23 miles to
22 the south at Venice Beach opposite Ballona Lagoon Marine Preserve. The California Least
23 Tern also nests only a few tens of miles to the north in Ventura County, where there is an
24 annually successful nesting colony. These two colonies of nesting terns, once their young can
25 fly, travel as family units to nearby lagoons such as Malibu Lagoon, so the young birds can test
26 their wings, be fed additional food sources by the parents, learn to hunt on their own as
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1 juveniles, and escape danger and predation at their natal sites. Thus, Malibu Lagoon also
2 serves as a crucial post-breeding dispersal, pre-migration location, where they can accumulate
3 calories of body fat for the long journey to spend the winter in Central America. The abundant
4 fish in Malibu Lagoon provide the parents with the opportunity to catch lots of food items to
5 feed the still-begging offspring, which have not yet mastered hunting of fish by hovering in the
6 air over water, then plummeting like a spear with wings tucked in as they dive into the water to
7 catch a fish. The importance of Malibu Lagoon for these post-breeding dispersal needs was
8 recognized in the Environmental Impact Report for the Project, as well as the Biological
9 Opinion issued by the F&WS, which is why the mitigation measures set forth in both of these
10 approval documents did not allow for construction to occur in the months of July or August.
11 The Commission staff reports, however, change the Project's construction schedule to June-
12 October, which includes these important nesting months and therefore will cause significant
13 impacts to these species.

16 23. The Project would cause irreparable harm to the California Least Tern because
17 there will be fewer numbers of fish for the next approximately 15 years, due to the alteration of
18 the habitat and destruction of the macro-invertebrate community, which is at the base of the
19 food chain. Generally, the recovery of such systems takes significant time (approximately 12 to
20 18 years) and often some parts of the system never fully recover. Due to the construction noise
21 and project movement activities, there is a high risk of California Least Tern abandonment of
22 this area for post-breeding dispersal in future years, caused by stress-induced behavioral
23 disruption. I have observed this type of stress-induced behavioral disruption with other bird
24 species. There is no mitigation proposed by the Project for these impacts to the California
25 Least Tern.
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1 **HARM TO OTHER BREEDING WATER AND SONG BIRDS**

2 24. Two species of rails nest and breed at Malibu Lagoon in the reed beds of
3 emergent native vegetation: Sora and Virginia Rail. Both of these birds are secretive and avoid
4 detection as nesting birds even to expert birders, naturalists, biologists, and ecologists.

5 25. On 26 March, 2011, between 9:00 am and 11:00 am, I was able to observe the
6 vocalized call notes of the Sora and Virginia Rail, a clear indication not only of the presence of
7 these birds, but that nesting may be underway already. These two birds will require additional
8 surveys later in spring and into summer, during the time that the proposed project would destroy
9 the nesting habitat of the “reed bed” emergent vegetation and SAV, such that both the protective
10 nesting habitat where nests and young hide from predators and the food that these two water
11 birds prey upon will be eliminated.
12

13
14 26. Irreparable harm from the Project would result to these birds for decades,
15 possibly in perpetuity, due to this proposed and planned project. Because of the major
16 alteration in the drainage and circulation to the marsh, there is a risk of change in higher salinity
17 patterns, which would not support the tule reeds, cattails which in turn eliminates habitat for the
18 Sora, Virginia Rail, Red-winged Blackbird and Marsh Wren, which depend on this emergent
19 vegetation habitat. The risk of extirpation (local extinction) of the Sora and Virginia Rail, along
20 with the sub-aquatic vegetation, is very high. The proposed project would destroy a healthy and
21 vibrant aquatic ecosystem that these birds depend on, which currently is functioning with a high
22 ecological and environmental integrity and sustainability of both plant life and animal life with
23 all the ecosystem processes of a natural brackish marsh and freshwater marsh with a unique
24 limnology for part of the year in summer when breeding, reproduction, and future generations
25 of life begin at the lagoon.
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1 **ALTERNATIVES TO THE PROJECT**

2 27. Improving habitat and water quality in Malibu Lagoon does not require man-
3 made engineering with massive grading and dredging in a sensitive wetlands. Genuine
4 restoration alternatives could be implemented that both respect the existing environment and
5 achieve the Project goals. A video demonstrating examples of genuine restoration efforts that
6 might be implemented was played during the Coastal Commission’s final hearing on the
7 Project. This video was produced by Marshall Thompson and me. It contains scenes both
8 within Malibu Lagoon and from areas outside the lagoon to demonstrate the negative impacts of
9 bulldozers. The video also contains scenes from successful community-engaged restoration
10 efforts implemented last year (and ongoing) at the Ballona Wetlands Grand Canal Lagoon in the
11 City of Los Angeles (*Sierra Club, et al. v. California Coastal Commission*, Case No. 50024
12 (2002), where a similar high-impact dredging proposal was deemed by the San Francisco
13 Superior Court to be illegal due to there being less damaging feasible alternatives. This video is
14 attached as Exhibit A.

15 **FAILURE TO MITIGATE HARMS**

16 28. Because the Staff Report and supporting documents never recognize or analyze
17 the full value of the wetlands in the western complex, there is no attempt to mitigate for the
18 ecology of the existing wetlands. Thus, no mitigation is proposed for long-term impacts to
19 wetlands – which the Staff Report does not identify or analyze in the first instance.

20 29. For those biological values that are recognized, the Project’s mitigation measures
21 are notably scarce. No mitigation compensates for the fact that the Project would not just
22 significantly disrupt, but would completely destroy the currently functioning wetlands that exist
23 in Malibu Lagoon. As but one example, proposed mitigation attempts to capture and rescue
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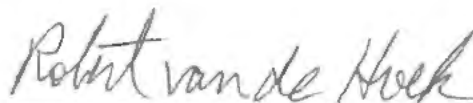
1 individual Tidewater gobies before draining the western complex of Malibu Lagoon are both
2 unlikely to be effective and, moreover, of little consequence if there is no long-term habitat for
3 the gobies to return to if the proposed project is completed.

4 **PUBLIC OPPOSITION AND PUBLIC PARTICIPATION**

5 30. Based on information and belief, the vast majority of people I have spoken to
6 who recreate in the Malibu Lagoon enjoy and value the existing habitat and oppose the
7 proposed re-engineering and dredging. The high degree of public opposition to the Project is
8 well captured in an article by actress Pamela Anderson, titled "The Ends vs. The Means,"
9 Malibu Magazine, Feb-March 2011, pp. 40 - 44. A copy of this article is included as Exhibit B.

10 31. Additionally, the public was not afforded adequate opportunity to participate in
11 the Project's comment period during the administrative process before the Commission. The
12 Commission's September 29, 2010 staff report entailed extensive new information, including
13 citations to numerous studies, as well as significant project changes. This staff report was
14 released less than two weeks before the final hearing on October 13, and did not provide enough
15 time for public review.

16 I declare under penalty of perjury the foregoing is true and correct. Executed on this
17 30th day of March, 2011 at Los Angeles, California.

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23 Robert van de Hoek
24 Conservation Biologist, Wetlands Scientist
25 Wetlands Defense Fund & Ballona Institute
26 322 Culver Boulevard, Suite 317
27 Los Angeles (Playa del Rey), CA 90293
28

1 **DECLARATION FROM WAYNE R. FERREN JR. IN SUPPORT OF INJUNCTION**
2 **FOR WETLANDS DEFENSE FUND**

3 I, Wayne R. Ferren Jr., declare and state as follows:

4 1. I am currently employed in the Ecological Services Department of Maser
5 Consulting P.A., an engineering firm located in Red Bank, New Jersey, where I have worked
6 for the past seven years. I have visited Malibu Lagoon State Beach many times over the past
7 30 years during my regional study of southern California estuaries and other coastal
8 wetlands. I also visited and conducted additional studies at Malibu Lagoon several times
9 during the past year when I was retained by the Wetlands Defense Fund to evaluate the
10 Malibu Lagoon Wetland Habitat Restoration and Enhancement Plan.
11

12 2. Professionally I am an environmental consultant specializing in wetland
13 restoration, botanical studies, environmental planning and management, and impact
14 assessment. I graduated from Rutgers University with a BA in Geology in 1970 and an MA
15 in Biology in 1978. Previously I was employed at the University of California, Santa Barbara
16 in the Department of Biological Sciences, subsequently named the Department of Ecology,
17 Evolution, and Marine Biology. While employed there I served as the Herbarium Curator
18 (1978-1995); Director of Carpinteria Salt Marsh Reserve (1987-2001); Executive Director of
19 the Museum of Systematics and Ecology (1995-2004); and Associate Director of the UCSB
20 Natural Reserve System (1997-2001). I joined the staff of Maser Consulting P.A. in 2004
21 following my retirement from UCSB.
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24 3. I have written over 80 articles, chapters, treatments, and reports on various
25 environmental topics, many of which have been published in peer-reviewed journals,
26 proceedings, or books. A preponderance of these writings have focused on wetland issues,
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1 especially the ecology of estuarine wetlands, including a study funded by the U.S.
2 Environmental Protection Agency in the 1990s regarding the classification and description of
3 wetlands of the southern California coast and coastal watersheds.

4 4. I have received eleven awards or honors for my contributions over the years,
5 many of which are the result of my work related to the management and restoration of
6 California wetland ecosystems. Examples include the following: American Planning
7 Association Award of Merit for Carpinteria Salt Marsh Management Plan (1998); Southern
8 California Wetland Recovery Project: Wetland Recovery Award (2000); Santa Barbara
9 Wildlife Care Network Wildlife Sanctuary Award (2001); Santa Barbara Channelkeeper
10 Wetland Ecology Award (2002); Regional Water Quality Control Board, Central Coast
11 District: Water Quality Improvement Award (2003); American Society of Landscape
12 Architects: Honor Award in General Design for "Lagoon Park" (2008); and National
13 Wetlands Award, Conservation and Restoration Category (2009 Nominee).

14 5. Because of my expertise in southern California estuarine ecosystems and the
15 restoration of coastal wetlands, I was invited to serve on several committees convened by the
16 California State Coastal Conservancy to assist with the development of large restoration
17 projects at important southern California estuarine ecosystems. Those I have contributed to
18 include, for example, the Southern California Wetlands Recovery Project Science Advisory
19 Panel; the Ballona Wetlands Restoration Project Science Advisory Committee; and the
20 Ormond Beach Wetland Restoration Project Design Review Committee. I also was asked to
21 be a member of the science panel convened for the Malibu Lagoon project in the mid-2000s,
22 but I was unavailable to participate at that time.

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1 6. I have reviewed the majority of the documents produced since 2000 regarding the
2 proposed Malibu Lagoon Wetland Restoration and Enhancement Plan including the
3 California Coastal Commission's ("CCC") staff reports for the project (application #4-07-
4 098) and others, which are the basis for the Commission's approval of the Coastal
5 Development Permit for the project. I prepared a review of the staff report and the project
6 (Ferren Jr., W. R., October 12, 2010, Comments regarding the CCC Staff Report, Malibu
7 Lagoon Restoration and Enhancement Project, Application No. 4-07-098, Agenda Item W6a,
8 letter report to Ms. Bonnie Neeley, Chair & Mrs. Mary Shallenberger, Vice Chair, and Mr.
9 Jack Ainsworth, Deputy Executive Director, California Coastal Commission), which also
10 included an alternative restoration plan for the west marsh that preserved the existing
11 structure and function of the habitats. A copy of my report is attached hereto as Exhibit A. I
12 presented a summary of my review and also an overview of the alternative plan at the
13 Commission's hearing on the project on October 13, 2010.

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16 7. I base this declaration on my personal knowledge and understanding of the
17 ecology of Malibu Lagoon acquired from visits and studies of the ecosystem, from
18 discussions with other professionals, and from review and analysis of the many documents
19 produced from independent studies over the past several decades as well as those produced in
20 relationship to the Commission approved project.

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23 **MALIBU LAGOON EXISTING CONDITIONS**

24
25 8. High quality, functioning habitat currently exists in the west marsh portion of the
26 Malibu Lagoon ecosystem, the location of the Commission approved project. This is the
27 same site of the twenty-eight-year-old restoration project implemented previously by the
28

1 Department of Parks and Recreation, which has been the focus of criticism by proponents of
2 the new project. Contrary to their claims that the existing, previously restored conditions are
3 seriously degraded and contribute to the water quality problems in the lagoon portion of the
4 ecosystem, the west marsh is dominated largely by native plant species and supports a
5 diverse array of resident and migratory native fauna. The Commission-approved project
6 would destroy the existing high-quality resources and existing functional capacity of the
7 estuarine ecosystem in an attempt to create a new set of habitats in its place.
8

9 9. The overall Malibu Lagoon ecosystem is of regional significance, and although
10 there are water quality problems that impact the estuary and human use of the coastal
11 resources of the Malibu coast, these problems are largely confined to the main lagoon creek-
12 channel portion of the estuarine system (separate from the channels in the western marsh of
13 the estuary), and these problems are due largely to nutrient pollution and bacteria resulting
14 from watershed impacts to the ecosystem. The proposed restoration and enhancement
15 project is not likely to change this situation in the lagoon, but would irreparably harm the
16 high quality existing natural resources in the west marsh.
17
18

19 10. Southern California estuarine ecosystems can be categorized into several
20 different functional groups. Many were formed under different environmental conditions and
21 different landscape context; many are characterized by different hydrological and
22 biogeochemical regimes; and many have been influenced by different land uses. Malibu
23 Lagoon belongs to the “river and stream mouth category” of estuarine ecosystems with
24 frequently closed mouths and reduced salinity, brackish water conditions rather than more
25 marine influenced salt water conditions, due to regularly open mouths to the ocean. This is
26 evidenced by the flora and fauna that characterize the ecosystem including the presence of
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1 abundant Spiral Wigeongrass (*Ruppia cirrhosa*) and the federal and state listed Tidewater
2 Goby (*Eucyclogobius newberryi*), both species of which are generally restricted to brackish
3 rather than the salt water conditions. Proponents of the Commission-approved project
4 ignored this fact when they lumped the different functional groups of estuaries together to
5 compare the health and diversity of estuarine ecosystems that can be quite different and
6 support different natural resources and functions.
7

8 11. Spiral Wigeongrass is one of several aquatic plant species that contributes to the
9 formation of submerged aquatic vegetation (SAV). This type of vegetation has national
10 significance for its important roles in estuarine ecosystems, but which has been declining
11 nationally due to a variety of impacts to coastal wetland ecosystems. Malibu Lagoon, and
12 particularly the channels of the west marsh, supports a large bed of SAV dominated by Spiral
13 Wigeongrass. As a form of SAV, it helps oxygenate the water, provides habitat for fish and
14 aquatic invertebrates, and provides food for resident and migratory waterfowl. When found
15 in brackish water estuarine of southern California, it is nearly always associated with a
16 healthy population of Tidewater Goby, for which it provides habitat as at Malibu Lagoon.
17 The SAV beds at Malibu are clearly a type of environmentally sensitive habitat, which would
18 be destroyed by implementation of the Commission approved project in the west marsh,
19 seriously impacting the otherwise healthy population of Tidewater Goby.
20
21

22 23 **LACK OF ADEQUATE ENVIRONMENTAL REVIEW** 24

25 12. Submerged aquatic vegetation (SAV) was not identified or discussed as a plant
26 community, vegetation type, or resource/species of importance within planning and review
27 documents related to the proposed restoration and enhancement plan including, for example,
28

1 the Restoration and Enhancement Plan, the final Environmental Impact Report (“EIR”) for
2 the project, and the Staff Report. In fact, the plant community is either absent from the
3 documents and their associated analyses and letters of support, or it is mentioned only in
4 passing within the aquatic benthic community and macrophytic algae discussions where SAV
5 is considered evidence of poor water quality. This is a complete mischaracterization of the
6 importance of SAV within the Malibu Lagoon ecosystem. The lack of treatment of this
7 critical component of the ecosystem brings into question the entire planning and review
8 process related to the Commission approved project. A new environmental review is
9 warranted because the potential impacts to the SAV beds and their important ecosystem
10 functions and role in the brackish water ecosystem were not identified or addressed.
11 Furthermore, no mitigation measures were proposed or analyzed in the EIR and staff report
12 to compensate for the temporal and long-term impacts to SAV and the organisms and
13 ecosystem functions dependent upon SAV including the environmentally sensitive and
14 habitat-restricted Tidewater Goby.

15
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17 13. The characterization of Malibu Lagoon ecosystem as highly degraded, in
18 particular the west marsh, and the purported benefits of the Restoration and Enhancement
19 Plan to improve a coastal wetland ecosystem, which is in fact not as severely degraded as
20 stated, misrepresent the enormous benefits of the of the existing ecosystem functions and
21 overstate the benefits of the Commission approved Plan.
22
23

24 **EXISTING PUBLIC ACCESS**

25
26 14. The existing conditions of Malibu Lagoon State Beach, including the public
27 access trail system, designed as part of the previous restoration project in the west marsh, are
28

1 the existing stable conditions. The present access system has been in place for nearly three
2 decades, providing passive recreational activities such as beach access, bird watching,
3 photography, and botanizing in proximity to the estuarine habitats and resident and migratory
4 wildlife. The access system provides excellent opportunities for viewing Malibu Lagoon and
5 the wildlife it supports with little apparent negative impact after nearly three decades of site
6 maturity. These stable conditions would be seriously disrupted during the implementation of
7 the proposed project and ultimately diminished permanently due to the project, which
8 includes the removal of the central access trail, eliminating one of the principle access routes
9 to the state beach that provides excellent opportunities to learn firsthand about the
10 importance of coastal wetlands and other nature study.
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14 **PROJECT ALTERNATIVES**

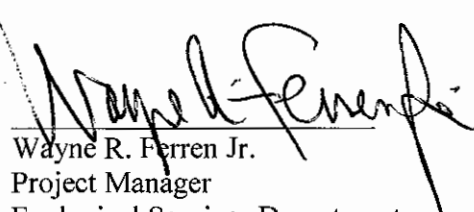
15 15. Although Malibu Lagoon State Beach has high functioning wetlands, the lack of
16 maintenance and ecosystem monitoring over the years has resulted in problems that would be
17 anticipated in the modern landscape with altered watersheds and region-wide impacts. For
18 example, in spite of the preponderance of native plant species and biomass, invasive exotic
19 plants have colonized portions of the state beach, including some areas of the west marsh
20 where the Commission-approved Restoration and Enhancement Project would be
21 implemented. Also, water quality can be a serious problem within the lagoon portion of the
22 project, but represents only a minor issue within some portions of the west marsh.
23
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25 Implementation of the Commission approved Plan would eliminate all vegetation at the west
26 marsh, hence eliminating the invasive as well as several acres of native vegetation, requiring
27 extensive grading and complete revegetation of the entire site. The Plan also would result in
28

1 unnecessary grading and restructuring of channels, activities that will have little or no
2 influence on improving water quality in the lagoon portion of the ecosystem in spite of the
3 claims of project proponents.

4 16. In my October 12, 2010 letter to the Commission cited above, I proposed an
5 alternate plan titled the "Malibu Lagoon Conceptual Wetland Rejuvenation Plan", which
6 would enhance the existing conditions through a phased approach of invasive species
7 eradication; west marsh channel modifications and selective organic material removal;
8 marsh, transition zone, and dune habitat enhancements; and preparation and use of a "Malibu
9 Lagoon State Beach Management and Maintenance Manual." The Rejuvenation Plan
10 improves existing conditions impacted through lack of effective management and
11 maintenance, while preserving the high functioning elements of the nearly three decades-old
12 restoration project. The relatively minor problems of the west marsh do not warrant the
13 complete destruction of the existing conditions and subsequent attempt to create a newly
14 designed site at great expense and with no guarantees of higher functioning conditions than
15 the existing conditions. The Rejuvenation Plan would retain the non-controversial and likely
16 effective elements of the Commission approved project, while avoiding the more destructive
17 elements of the project.
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22 I declare under penalty of perjury the foregoing is true and correct. Executed on this
23 28th day of March, 2011 at Red Bank, New Jersey.

24 
25 _____
26 Wayne R. Ferren Jr.
27 Project Manager
28 Ecological Services Department
Maser Consulting, P.A.

1 **SECOND DECLARATION FROM ROBERT VAN DE HOEK**
2 **IN SUPPORT OF INJUNCTION FOR WETLANDS DEFENSE FUND**

3 I, Robert van de Hoek, declare as follows:

4 1. I have analyzed the declarations and scientific evidence submitted by the
5 Agencies in this case. My conclusion remains that the Project fails to meet both the goals of
6 protecting and improving Malibu Lagoon. Not only would this Project cause severe interim
7 harm to existing habitat values upon construction, but several species are certain to suffer *long-*
8 *term harm* as well. This damage is unnecessary because engineering and biological evidence
9 was submitted, and not adequately refuted, that alternative means to achieve project goals
10 would be less damaging to our environment.

11 **ENVIRONMENTAL HARMS**

12 2. It is axiomatic that the dredging, grading, and filling of over 87,000 cubic feet of
13 wetlands in an environmentally sensitive habitat area (ESHA) would cause severe short-term
14 harm to any wildlife that exists in that area. However, extensive expert testimony was also
15 submitted to support this conclusion, both in the Declaration of Wayne Ferren (*see* par. 8-11,
16 Exh. A, pp. 3, 5) and in my first declaration (par. 9-26).

17 3. The Agencies fail to refute that these short-term impacts would occur if
18 construction commences on June 1. To the contrary, Richard Ambrose, in his declaration,
19 correctly acknowledges that submerged aquatic vegetation (SAV) will be eliminated and the
20 Tidewater goby negatively affected by construction. *See* Ambrose Dec., par. 14. Add to this
21 that the goby (fish) would be entirely eliminated in the short-term from the western lagoon
22 because this area is to be dewatered during construction (the fish will be captured and relocated,
23 or, if not so lucky, killed by machinery or asphyxiated). These impacts constitute severe harm.
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1 4. Short-term harm from construction also would occur to other wildlife in the
2 lagoon. A study by Ambrose and Orme (2000) states, “*Despite its small size, irregular*
3 *topography, and unusual vegetation patterns, the restored salt Marsh [Malibu Lagoon] is used*
4 *extensively by wildlife, particularly by fish and birds.*”¹ My own personal observations from
5 1999 to 2011 repeatedly confirm that the western portion of the lagoon is healthy and
6 functioning with low-salinity brackish and freshwater habitats. *See also* FEIR, pp. 6-11; 12-4
7 (citing study (Hovore & Associates (2005)) finding healthy macroinvertebrates that support
8 brackish and freshwater habitats (the FEIR is attached as Exhibit B to the Susan A. Austin
9 Declaration)). Eutrophication (high nutrient levels) can be an important natural process in these
10 watery ecosystems each summer, providing resources for the exuberance of life which occurs
11 with warm weather. In the western complex of Malibu Lagoon, the high nutrients support the
12 foodchain, and there is a flourishing of wetland emergent vegetation of bulrush, sedge, cat-tails,
13 marsh daisy, numbering to 27 kinds of native wetland plants with a history that extends back to
14 at least the 1950s. In the summers the water and sky above are alive with the movement of
15 dragonflies, damselflies, mayflies, spread-wings, and a countless myriad number of additional
16 animals without backbones (macro-invertebrates). *See* Exhibit A (Wetlands Defense Report
17 #23, April 2011). All of these resources would be harmed during construction.
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21 5. Additionally, the construction schedule is not well timed to avoid the breeding
22 schedules of birds and the Tidewater goby, and in fact, conflicts with the nesting season for
23 most birds in the area. I base this conclusion on the following evidence: First, to protect the
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25

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27 ¹ Ambrose, R. F. and A. R. Orme. 2000. Lower Malibu Creek and Lagoon Resource
28 Enhancement and Management. Final Report to the California State Coastal Conservancy.
University of California, Los Angeles.

1 Tidewater Goby, the study relied on by the FEIR itself recommends that construction occur
2 outside the summer months:

3 “The abundance of Tidewater Gobies poses a significant constraint to the proposed
4 restoration. The construction of the proposed restoration of Malibu Lagoon should be
5 timed to avoid disturbance of the western shoreline during the months of May-
November, when larval Tidewater Gobies are using the nearshore habitat.”

6 FEIR, pp. 6-11, 6-14, 6-15 & 12-3, referencing Dagit and Swift (2005). Dr. Camm Swift, a co-
7 author of this 2005 study, is a recognized expert on the Tidewater Goby. He also is a co-author
8 of the two articles from 1999 referenced in the Ambrose Declaration, now outdated and
9 superceded by Dr. Swift’s own conclusions in the studies relied on by the FEIR.²
10

11 6. Second, avian species would be severely impacted by the construction schedule.
12 Supporting expert declarations for the Agencies do not indicate which avian species have
13 breeding schedules that would be impacted (or not impacted) by the summer months of
14 construction, but the list of the former is extensive. The Snowy Plover, Gadwall, Mallard,
15 Ruddy Duck, American Coot, Pied-billed Grebe, Common Yellowthroat, Song Sparrow, Marsh
16 Wren, Sora, Virginia Rail, Killdeer, Black Phoebe, Barn Swallow, Great Blue Heron, and
17 Black-crowned Night Heron – *all* have bird nesting seasons that extend into the June 1 –
18 October 15 construction period. Reproduction and rearing young birds to the time of fledging,
19 takes longer for larger birds such as waterfowl and wading birds. Also, waterfowl and wading
20 birds extend their nesting activities in summer and delay nesting to be timed with the higher
21 water levels in summer at Malibu Lagoon, and song birds mate for a second nesting in summer
22 in the reed beds of the emergent wetland vegetation and wetland shrubs adjacent to the water.
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27 ² While there is no dispute that Tidewater Gobies breed in the summer months during the proposed
28 construction, Mr. Ambrose asserts that Tidewater Gobies which occur outside the construction footprint will not
be affected. This is of little relevance, however, because the majority of juvenile and some adult gobies seek
refuge and habitat in SAV of the western lagoon to be dredged and filled.

1 The food for the young birds comes primarily from wetland plants and aquatic invertebrates,
2 including in the aerial portion of their life-cycle as adult insects.

3 7. Finally, the endangered California Least Tern (*Sterna antillarum browni*) relies
4 on Malibu Lagoon for post-breeding feeding of young birds in preparation for their long
5 migration. I have personally observed from 2001-2011 annual well-established patterns of this
6 behavior by the California Least Tern, including feeding throughout the western part of the
7 lagoon, especially near the bridges where fish tend to congregate. The FEIR mitigation
8 requirement for California Least Tern supports this conclusion by stating that the construction
9 timing should avoid the months of July and August. FEIR 6-35.

10 8. With regard to long-term impacts (merits of the Project), Mr. Ambrose argues
11 that the lagoon is in a degraded condition, the damage from construction will be temporary, and
12 all habitat values will ultimately be improved by the Project. *Ibid.*, par. 5, 10, 14. These
13 conclusions are unpersuasive for two main reasons. First, the lagoon is not currently degraded
14 with respect to SAV (e.g., Wigeon Grass, *Ruppia, sp.*) and the Tidewater Goby, and both SAV
15 and Tidewater Goby are thriving in the present ecology of the western lagoon. *See, e.g.*, first
16 van de Hoek Declaration, par. 13-17. The new habitat being created would not sustain the
17 same level of SAV or Tidewater Goby, and both SAV and Tidewater Goby will be irreparably
18 harmed. Ferren Declaration, Exh. A, p. 3 (project would “reduce the functional capacity of the
19 Malibu Lagoon as a river and stream mouth category of wetlands”).

20 9. Second, there is no specific analysis or evidence of just how long the alleged
21 “short-term” harms will last. The development permit for this project is open-ended to allow
22 development activities in the future, if deemed necessary at the Agencies’ discretion, and the
23 Coastal Commission’s Executive Director can extend the project construction for “good cause”
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1 beyond the June 1 to October 15 time frame. *See* Staff Report, pp. 10, 20 (attached as Exh. A of
2 Birkelund declaration). Thus, the environmental impacts that are allegedly short-term could
3 extend an unknown amount of time. Moreover, even the best of restoration projects are
4 uncertain and it can take decades for ecosystems to ultimately recovery and thrive. Malibu
5 Lagoon, for example, has taken decades to reach its current state of equilibrium since it
6 underwent the last 1983 restoration.
7

8 **PROJECT ALTERNATIVES**

9 10. Maser Consulting, P.A., presented and described in considerable detail a
10 proposed alternative -- the Malibu Lagoon Conceptual Wetland Rejuvenation Plan
11 (Rejuvenation Plan) – that satisfies all of the Project objectives to improve both future habitat
12 and water quality. *See* Ferren Dec., Exhibit A, p. 6-10, and attached color diagram of the
13 alternative. “This Rejuvenation alternative also will improve habitat and water quality as well”
14 (*ibid.*, p. 6) and like the proposed Project, will entail “Improved circulation, including tidal
15 circulation when the estuary mouth is open,” (*ibid.*, p. 11).
16

17 11. There is no meaningful analysis presented by the opposition that Maser
18 Consulting, a highly respected engineering firm, would not be able to implement this proposed
19 alternative to achieve its stated objectives.
20

21 12. Further, the Rejuvenation Plan is but one example of what could be done:

22 “[T]here are numerous environmental enhancements that would rejuvenate the
23 existing conditions included habitat and water quality without the grading [and
24 filling] of approximately 88,000 cubic yards of wetland and upland habitats and
soils. *Ibid.*, p. 6.

25 “Also, old channels could be reconnected and new connections could be
26 added to existing channels, as feasible, to increase circulation. For example,
27 one alternative is to connect the two portions of the north channel (north and
28 south of Pacific Coast Highway). Also, a new alternative channel through
portions of the proposed expanded marsh would likely increase circulation in

1 the northern portion of the expanded marsh [e.g., improve water quality].
2 None of these actions require widespread alteration of the habitats and long-
term disruption of the estuarine ecosystem.” *Ibid.*, p. 7.

3 The Agencies did not examine such options or provide any meaningful engineering or
4 scientific analysis of project alternatives to avoid extensive grading in the western lagoon.

5 13. The Rejuvenation Plan also has the advantage of retaining two trails to the
6 beach, preserving the public access benefits of the Wooden Bridges Trail. *Ibid.*, p. 10. The
7 bridges have been in place since 1983 and the use of these structures is in balance with the
8 existing wildlife in the western lagoon. *Ibid.* (“presence of passive human activities in
9 proximity to resident and migratory wildlife is the stable existing conditions”). Wetlands-
10 dependent species such as herons and egrets in fact perch upon the bridges. In 2010, I
11 observed two species of wetland-obligate birds (the Black Phoebe and Barn Swallow) nesting
12 under the bridges, which attached and built their delicate nests of wetland-soil (mud) to the
13 underside of the bridges, and the and laid a clutch of 4 and 5 eggs respectively, the birds
14 disregarding people walking over the bridges. On a routine basis, I also observe other
15 wetland-obligate birds, namely the Song Sparrow and Common Yellowthroat, stopping
16 adjacent to the wooden bridges to sing for nesting territories, as well as to gather wetland
17 plants for lining their nests for all the public to see as they walk across the bridges.

18 14. According to Richard Ambrose, the project will increase wetlands by 2-4
19 acres, however, the alternative presented by Wayne Ferren will also increase wetlands by 2-4
20 acres in the area to the east of the parking area. The new wetlands that Ferren's alternative
21 proposes would be an additional type of wetland as a vernal pond marsh, which would
22 support wildlife such as the Pacific Chorus Frog (formerly known as the Pacific Tree Frog),
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1 and several unique wetland plants that can be restored in order to add to the biodiversity of
2 Malibu Lagoon.

3 15. I firmly believe Malibu Lagoon would benefit from a restoration plan with
4 alternatives that preserve the existing wetland soils, wetland vegetation, waters rich in life
5 and nutrients, aquatic invertebrates, water-dependent birds, land mammals. However, the
6 assertion that bulldozing of tens of thousands of cubic yards of living soils is needed to
7 achieve these objectives is false.³ Techniques for wetlands restoration are constantly
8 improving. A good example of this is the community-based restoration program, known as
9 “Digging-In,” which the California Coastal Commission supports and promotes at Upper
10 Newport Bay Ecological Reserve. See www.coastal.ca.gov/publiced/UNBweb/intro.pdf. The
11 father of ecological restoration, Aldo Leopold, has stated eloquently that we do not want to
12 remove any parts of a functioning ecosystem. The first part to intelligent tinkering is to save
13 the parts. To bulldoze, dredge, dike, and fill the wetlands at Malibu Lagoon would be
14 throwing away much life, including a high risk of extirpation of endangered species and rare
15 species, not to mention many important species at the base of the food web. Ecological
16 restoration is still in its infancy, as a speculative science, with much experimentation and
17 engineering, and much failure.

21 ³ How to expand the lagoon with the acquisition of the adjacent golf course (which I fully
22 support) has not been studied and would require a new environmental analysis and permits.
23 There is no reason to believe, however, that project alternatives could not accommodate such
24 future expansions. I was directly involved circa 2004, as an expert consultant with the
25 agreement by the private land owner of the 10-acre golf course that is contiguous to Malibu
26 Lagoon on the western perimeter to deed his property to the State. The legal deed restriction
27 keeps a majority of the acreage (6-8 acres) to be maintained as upland (not watery wetland)
28 in a passive parkland setting; and approximately 2-4 acres would be wetland but there is no
determination of what type of wetland is to be created. Settlement Agreement, by and
between A. Jerrold Perenchio, Margaret Rose Perenchio and the Coastal Commission, dated
June 24, 2004. Therefore, it is premature to consider that the golf course will be tidally
connected with water to Malibu Lagoon, and it is beyond the scope of this project at hand.

1 **WATER QUALITY**

2 16. Although the proposed alternatives would address water quality to the same
3 extent as the project, the potential benefits of improving water circulation in the western portion
4 of the lagoon should not be overstated. The vast majority of water quality issues reside outside
5 the western portion of the lagoon that would be modified by the Project.

6 17. The FEIR for the project concludes that the impaired watershed of Malibu
7 Lagoon and Malibu Creek, and their resulting listing under the Clean Water Act section
8 303(d), is due primarily to: (1) excess influx nutrients; and (2) excess influx of bacteria.
9 *FEIR, pp. 5-6, 5-9.* Nutrients causing of concern include phosphorus, of which 95% or more
10 is attributed to septic systems, upland systems, and surface runoff, and nitrogen, of which
11 83% or more derives from upland and other sources outside the lagoon. *Ibid.* Similarly,
12 86% or more of the offending bacteria derive from septic systems and leach fields outside the
13 lagoon. *Ibid.*, p. 5-7. These important details are not addressed in the declaration of Samuel
14 Unger. It is clear, though, that improving circulation in the western lagoon will not address
15 influx of pollutants that is causing the 303(d) water quality impairments.⁴

16 18. Dr. Hartmut S Walter reaches the same conclusion that offsite sources of
17 pollution are the overwhelming cause of poor water quality and must be addressed before
18 water quality will improve. *See Exhibit B (Walter, Hartmut S., Letter to Coastal*
19 *Commission, dated Sept. 24, 2010, p. 2, stating “The existing problems with water quality,*
20 *water circulation, alien plants, etc. are largely of an external nature, i.e. they come into the*
21 *lagoon system from the outside and should be solved before entering the lagoon.”)*

22 _____
23 ⁴ For nine years, Malibu Lagoon has been listed under the CWA section 303(d) as impaired
24 for nine years. *Total Maximum Daily Loads for Bacteria in the Malibu Creek Watershed*, US
25 Environmental Protection Agency Region, March 21, 2003

1 19. Furthermore, within Malibu Lagoon itself, water quality is impaired primarily
2 in the main channel not the western complex proposed for dredging. The dense algae
3 indicative of water quality and fish kill issues is typically confined to the lagoon's main
4 channel, which receives watershed runoff. Ferren Dec., Exh. A, p. 7. Maser Consulting
5 includes an aerial photograph clearly demonstrate that algae growth proliferates in the main
6 channel but is absent in the western complex. *Id.* (see color map of algae growth attached).
7 Existing conditions and plant life in the western channels already filter and remove water
8 pollution to some degree. The main lagoon channel is not included as part of the Project and
9 its pollution problems would remain as is.

11 20. As a trained geomorphologist with applied experience in hydrology, my
12 conclusions also are that the western complex of Malibu Lagoon is operating in a healthy
13 manner with regard to water quality. U.S. Geological Survey scientist, Dr. John A. Izbicki,
14 presented his results of a thorough investigation of water quality at Malibu Lagoon, on April
15 11, 2011, to the Malibu City Council at a hearing to consider this project. He concluded that
16 any bacteria derived from wildlife, namely birds, is part of nature. In such circumstances,
17 bacteria adds biological enrichment for plant life, fish life, and aquatic macroinvertebrates,
18 and that the Regional Water Board has yet to account for these new findings. Similarly, the
19 EPA and Regional Water Board will need to re-evaluate the nutrient TMDLs at Malibu
20 Lagoon due to these new USGS findings. The federal Environmental Protection Agencies'
21 criteria for listing water bodies as impaired and requiring TMDLs are intended to be "fluid,"
22 and the Total Maximum Dissolved Loads for Bacteria in Malibu Creek Watershed [Total
23 Maximum Daily Loads for Bacteria in the Malibu Creek Watershed, US Environmental
24 Protection Agency Region, March 21, 2003] specifically provides:
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1 "[I]t may prove that the birds in Malibu Lagoon are sufficient alone to cause
2 an exceedance. If this proves to be the case, we will recommend that the
3 Regional Board consider re-evaluating the TMDL using the natural source
4 exclusion for implementing the water quality standard."

5 If birds are the source of the bacteria, coming from bird feces, which is natural, then Malibu
6 Creek is to be considered healthy, not impaired because all the various kinds of water birds,
7 including migratory seabirds, such as pelicans and gulls are part of nature. Similarly, the
8 EPA and Regional Water Board will need to re-evaluate the nutrient TMDLs at Malibu
9 Lagoon due to these new USGS findings, especially since the abundance of fish and aquatic
10 invertebrates is now extremely high and healthy according to Hovore, Dagit & Swift and my
11 own observations.

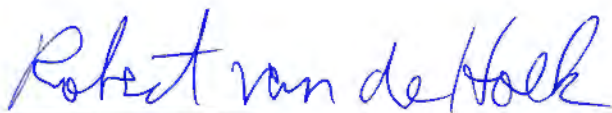
12 **QUALIFICATIONS OF EXPERTS**

13 21. Mr. Wayne Ferren is highly regarded in the field of wetlands restoration, as is
14 his firm, Maser Consulting, P.A. Mr. Ferren's curriculum vitae is attached as Exhibit C. As
15 shown, Mr. Ferren's qualifications are impressive and his expert opinion of the highest
16 caliber. His engineering firm, Maser Consulting, is well-equipped to examine project
17 impacts and offer viable project alternatives. *See, e.g.*, Ferren Dec., Exh. A (alternatives map
18 attached). While professors in academia will notably excel at publishing papers – it being a
19 core of function of their jobs – scientists and engineers in the private sector typically are not
20 as prolific in publishing, nor are they expected to be. Private sector and academic experts,
21 however, are equally capable of offering credible expertise and opinions.

22 22. My curriculum vitae is attached as Exhibit D. I have spent most of my adult
23 life studying and working with wetlands. My focus has been on genuine restoration projects
24 that are less invasive than using heavy-handed, machinery, but rather ones that include
25 protecting existing ecological values, which are often under-appreciated and under-
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1 recognized. Especially in this regard, I have considerable knowledge and expertise. I also
2 have engaged in other lawsuits as an expert and successfully offered key testimony, including
3 for the successful challenge and court decision in San Francisco Superior Court of a Coastal
4 Commission permit granted to the City of Los Angeles for dredging of the Ballona Wetlands
5 Grand Canal Lagoon.

6
7 I declare under penalty of perjury the foregoing is true and correct. Executed on this 2ND
8 day of May 2011 at Los Angeles, California.

9
10 

11 Robert van de Hoek
12 Conservation Biologist, Wetlands Scientist
13 Wetlands Defense Fund & Ballona Institute
14 322 Culver Boulevard, Suite 317
15 Los Angeles (Playa del Rey), CA 90293

EXHIBIT A

ATTACHMENT TO SECOND DECLARATION OF ROY VAN DE HOEK

REPLY BRIEF IN SUPPORT OF PRELIMINARY INJUNCTION
OR, IN THE ALTERNATIVE, A STAY ORDER

Wetland Native Plants at Malibu Lagoon: Los Angeles County, California

**Robert J. van de Hoek
Botanist, Ecologist, Naturalist
Ballona Institute
322 Culver Boulevard, Suite 317
Los Angeles, CA 90293**

**Wetlands Defense Fund
Report #23**

April, 2011

Dedicated to Peter Raven, Sierra Club Life-time Member Over 50 Years

Introduction, Materials and Methods

The first field botanist that I am aware of to scientifically investigate Malibu Lagoon for wetland plants was Peter Raven (UCLA PhD doctoral student) on September 6, 1959. His observations and plant voucher collections were deposited at three known institutions with herbaria (UC Berkeley Jepson Herbarium, UCLA Herbarium, and Rancho Santa Ana Botanic Garden Herbarium). I contacted the collection manager at each of these institutions, and they provided me from their electronic databases, the known specimens of Peter Raven that were collected at Malibu Lagoon. After synthesis of this information, I was able to calculate that Peter Raven collected 27 native plant wetland species at Malibu Lagoon on September 6, 1959. His collections were assembled together with those of Henry Thompson (UCLA Professor of Biology) in 1966 for a book: *Flora of the Santa Monica Mountains, California*.

The second field botanist to observe plants at Malibu Lagoon was Bob Muns, who completed a checklist in 1988, which is titled: *Flora of Malibu Lagoon State Park*. He observed 42 native species of plants at Malibu Lagoon.

The third field botanist to observe and report the findings in a checklist was Carl Wishner, who completed his study in 2005. He reported 34 species of native plants, most of them either wetland species or dune species.

The author of this report, also a field botanist, has made repeated visits to Malibu Lagoon from 1999 to 2011, including a visit in 2010 with another field botanist and plant ecologist named Wayne Ferren.

This report provides a synthesis of all the known wetland native plants found at Malibu Lagoon by the field botanists listed above over the last 50 years (1959-2011), thereby providing a detailed knowledge of historical ecology and current ecology.

This investigation was prompted as a result of concern that a “bulldozing” project, which as described in the EIR, will remove all native plants and native vegetative cover, eliminating wetland habitat for birds, fish, and invertebrates.

Acknowledgments

I wish to acknowledge U.S. Department of Interior, which rated me professionally qualified in 1993 as a Botanist in the GS professional series. And I wish to acknowledge the California Department of Fish and Game, which rated me qualified in 1995 as Botanist.

I would especially like to thank Marcia Hanscom, executive director, with the Wetlands Defense Fund, a project of the International Humanities Center. She provided emotional support which led to the completion of this report, which hopefully contributes science in support of conservation and preservation of the wetlands, coastal dune and strand, meadows, willow woodland, and shallow waters of the several sloughs that are interconnect with the marsh and pedestrian bridges that act as boardwalks over the water at Malibu Lagoon.

I would like to thank conservation leaders of environmental groups for their confidence in me as well as emotional support, including Julio Bermejo, Dr. Rosemarie White, and David Warren of the Sierra Club. And with the San Fernando Valley Audubon Society, I would like to thank Mark Osokow, Muriel Kotin, and Kris Ohlenkamp. The Pasadena Audubon Society is also to be acknowledge, particularly the conservation chairwoman, Ms. Laura Garrett.

I would like to acknowledge assistance from Ms. Joy England, Collections Manager at Rancho Santa Ana Botanic Garden in Claremont, with assistance, permission to access the collections, especially those of 1959 by Peter Raven.

In addition, I would like to acknowledge Mr. Barry Prigge (Botansit), who is Collections Manager of the Herbarium at UCLA for assistance with use of the herbarium over many years, inscribing my second edition of the Flora of Santa Monica Mountains, and for sending me an electronic data base of the collections by Peter Raven in 1959, when Peter was a PhD doctoral student at UCLA in the Botany Department.

I would like to thank Dr. Maynard Moe, botanist and collections manager at UC Berkeley in the Jepson Herbarium, for assistance with finding specimens of plants collected by Peter Raven in 1959.

I would like to acknowledge Lloyd Kiff and Kay Nakamura (1979) for the excellent work on a bird report, which proves reed beds present in 1930s to 1940s.

Lastly, I would like to thank Dr. Peter Raven, distinguished scientist and botanist, director of the Missouri Botanic Garden, recipient of numerous honorary PhDs from various learned institutions, and author of numerous Floras from many geographic regions of the world, including several in the state of California. I enjoyed a very nice personal conversation with Peter in the Santa Monica Mountains, at the newly preserved parkland called King Gillette Ranch. On June 6, 2010. I learned that Peter was a life member of the Sierra Club for over 50 years at this time. At King Gillette Ranch, Peter Raven was invited to give a distinguished lecture on conservation. I enjoyed our conversation afterward at lunch, and Peter wanted to lend his support to save Malibu Lagoon and the Ballona Wetlands, with a letter of support. Circa 1960, Peter discovered a new species, *Camissonia lewisii*, found at Ballona, and in a few other localities in our coastal sandy soils, likely at Malibu, which he named for his PhD advisor, Dr. Harlan Lewis, a UCLA Botanist.

Results

The results of Table 1 shows clearly four species of native plants that Peter Raven found in 1959, were not relocated in 1988, and therefore believed extirpated circa 1983, as a result of the recontouring by bulldozers of a very complex set of wetlands at Malibu Lagoon. These four species, noted in Table 1, are listed below:

1. Raven#14365: *Aster subulatus* var. *ligulatus*
2. Raven#14373: *Suaeda taxifolia*
3. Raven#14382: *Euthamia occidentalis*
4. Raven#14405: *Stephanomeria diegensis*

There are also several species believed to have become extirpated prior to the 1959 visit by Peter Raven. These species likely disappeared after 1930, when the private ranch was opened up to the public with the new CCC/WPA built Roosevelt Highway, which would later become known as Pacific Coast Highway and Highway 1, which are the two names still used today. The building of home on the barrier beach (aka sand spit) that became known as Malibu Colony, together with controlling Malibu Creek with rip-rap boulders, construction of the Adamson Home on the east side of Malibu Lagoon, resulted in loss of habitat for the following wetland species: Salt Marsh Bird's Beak, Marsh Milkvetch, and *Baccharis douglasii*. Additional species that were believed to be lost based on a comparison of Malibu Lagoon to similar ecosystems of southern California may include 10 additional species. None of these species has been proposed as genuine restoration here.

Table 1

Native Flora of Malibu Lagoon Within Proposed Project Boundary: Annotated Floristic Catalogue of Native Plants from 1959 to 2011 Arranged Chronologically by Peter Raven Collection Numbers, Followed by Observations of Muns, Wishner, and van de Hoek

Ruppia maritima (Wigeon Grass). Submerged aquatic vegetation.

Raven#14360. Noted by Muns, Wishner and van de Hoek in 2011.

Frankenia salina (Alkali Heath). Wetland obligate plant at high water line.

Raven#14361. Noted by Muns, Wishner, and van de Hoek in 2011.

Baccharis pilularis (Coyote Bush). High ground between bridges and perimeter.

Raven#14362. Noted by Muns, Wishner, and van de Hoek in 2011.

Jaumea carnosa (Marsh Daisy). In wet soil at water line with *Cuscuta salina*.

Raven#14363. Noted by Muns, Wishner, and van de Hoek in 2011.

Note that Raven found a parasite on *J. carnosa* (see below: Raven#14364).

Cuscuta salina (Salt Marsh Dodder). In wet soils as a parasite on Marsh Daisy.

Raven#14364. Noted by Muns, Wishner, and van de Hoek in 2011.

Raven noted: "Principally on *Jaumea*, salt marsh at mouth of Malibu Ck."

In 2003, van de Hoek genuinely restored *C. salina* to Ballona Wetlands.
Aster subulatus var. *ligulatus* (Shore Daisy). In freshwater pond edges.
Raven #14365. Extirpated circa 1983 by restoration project.
Not noted or listed by Muns or Wishner, nor observed by van de Hoek.

Platanus racemosa. (California Sycamore). At periphery of project boundary.
Raven#14368. Noted by Muns, Wishner, and van de Hoek, in 2011.

Sarcocornia pacifica (Pacific Pickleplant). Abundant at water line in wet soils.
Raven#14369. Noted by Muns and Wishner as *Salicornia virginica*.
Noted by van de Hoek in 2011, with the new scientific name given 2001.

Atriplex triangularis (Spearscale or Saltbush). Near wet soils in marsh.
Raven#14370. Noted by Muns, Wishner, and van de Hoek in 2011.

Schoenoplectus californicus (Tule). At all 4 sloughs by 4 bridges. 17 feet tall.
Raven#14371. Noted by Muns, Wishner, and van de Hoek in 2011.

Schoenoplectus robustus (Big Bulrush). Roots in wet soil, leaves emerge water.
Raven#14372. Noted by Muns, Wishner, and van de Hoek in 2011.

Suaeda taxifolia (Sea Lite, formerly Sea Blite). Extirpated circa 1983 by restoration.
Raven#14373. Raven noted its presence in 1959, published in 1966.
Not seen by Muns, Wishner, nor van de Hoek; true restoration needed.

Heliotropium curassavicum (Seaside Heliotrope). Also see Raven#14400.
Raven #14374. Noted by Muns, Wishner, and van de Hoek in 2011.
Raven#14374 noted on voucher that one population occurred on dunes.
Raven said: "Leaves broader and more succulent than plants off dunes."

Artemisia douglasiana (Dream Sage or Mugwort). Fairly common at waters edge.
Raven#14380. Noted by Muns, Wishner, and van de Hoek in 2011.

Ambrosia psilostachya (Western Ragwort). Fairly common.
Raven#14381. Noted by Muns, Wishner, and van de Hoek in 2011.

Euthamia occidentalis (Western Goldenrod). Extirpated circa 1983.
Raven#14382. Not noted by Muns, Wishner, nor van de Hoek in 2011.

Baccharis salicifolia (Seep Willow, Mulefat, Water Wally). Wetland-riparian area.
Raven#14383. Noted by Muns, Wishner, and van de Hoek in 2011.

Atriplex lentiformis breweri (Brewer's Saltbush) Wetland restricted species.
Raven#14384. Noted by Muns, Wishner, and van de Hoek in 2011.

Juncus mexicanus (Rush). Rare wetland species at Malibu Lagoon.

Raven#14385. Noted by Muns, Wishner, but not by van de Hoek in 2011.
Spergularia mactotheca (Sand Spurrey). Sandy and wet-soil restricted.
Raven#14390. Noted by Muns, Wishner, and van de Hoek in 2011.

Populus balsamifera tirchocarpa (Cottonwood). Riparian species now extirpated.
Raven#14394. Not noted by Muns, Wishner, nor van de Hoek in 2011.

Salix laevigata (Red Willow). Wetland species of riparian areas.
Raven#14396. Noted by Wishner and van de Hoek in 2011, not by Muns.

Heliotropium curassavicum (Seaside Heliotrope). Also see Raven#14374.
Raven#14400. Noted by Muns and Wishner and van de Hoek in 2011.
Raven noted a population that occurred along Malibu Creek, in non-dune soil.

Rumex salicifolius (Willow Dock). Fringe of Freshwater wetland; extant.
Raven#14403. Not noted by Muns, noted by Wishner and van de Hoek, 2011.

Stephanomeria diegensis (Native Chicory). Extirpated circa 1983 by restoration.
Raven#14405. Not noted by Muns, Wishner, nor by van de Hoek in 2011.

Cyperus eragrostis (Tall Cyperus). Wetland emergent species, roots in water.
Raven#14407. Wishner, van de Hoek in 2011, not noted by Muns.

Typha latifolia (Broad-leaved Cattail). Wetland in water at Bridge 4.
Raven#14409. Not noted by Muns or Wishner. Noted by van de Hoek, 2011.

Typha domingensis (Southern Cattail). Wetland slough up creek at Bridge 4.
Raven#14410. Noted by Wishner and van de Hoek in 2011.

NOTE: Three Native Wetland Plants Not Collected by Peter Raven

Distichlis spicata (Saltgrass). Exclusive host habitat of rare coastal butterfly.
Not collected by Raven due to not in flower at season (late summer) of visit.
Observed by Muns, Wishner, and by van de Hoek from 1977-2011.

Limonium californicum (Sea Lavender, Marsh Rosemary). Rare in marsh.
Not collected by Raven. Noted by Muns and Wishner, not by van de Hoek.

Anemopsis californica (Yerba Mansa). Parking lot planted, van de Hoek, 2010.
Raven (1966) listed it at lagoon; not noted by Muns, nor by Wishner.

Conclusion

The early collecting of Peter Raven clearly indicates that freshwater marsh with brackish waters of low salinity, wet meadows, alkaline vernal pools, and freshwater ponds were present. Bird lists of the past prove that reed bed vegetation was present in 1930s and 1940s. Early photographs that I have investigated with my extensive background in geography with air photo interpretation, and my geologic academic training in photo-geology allow this investigator to interpret photographs of the 1920s as showing reed bed vegetation, freshwater ponds, alkaline vernal pools that were non-tidal, and vernal pools of non-tidal freshwater to be present within the Malibu Lagoon proposed project boundary. In essence, there is good evidence that throughout the early 20th Century and now in the early 21st Century, a period of more than 100 years of history that freshwater marsh, low-salinity brackish marsh, vernal pools and some hyper-saline vernal pools were present at Malibu Lagoon. Any restoration that is true and genuine to ecology, history, and ecosystem process and function, would have to include restoration of these types of habitats and communities.

Literature Cited

Muns, Bob. 1986. Flora of Malibu Lagoon State Park. 10 pages.

Raven, P. H. and H. J. Thompson. 1966. Flora of the Santa Monica Mountains, California. UCLA. 189 pages.

Wishner, C. 2005. Floristic Survey of Malibu Lagoon State Beach. ENVICOM. 10 p.

Kiff, L. & K. Nakamura. 1979. Birds of Malibu Lagoon. Imprint 4(2): 1-13.

EXHIBIT B

ATTACHMENT TO SECOND DECLARATION OF ROY VAN DE HOEK

REPLY BRIEF IN SUPPORT OF PRELIMINARY INJUNCTION
OR, IN THE ALTERNATIVE, A STAY ORDER



Copy

DEPARTMENT OF GEOGRAPHY
1255 BUNCHE HALL
405 HILGARD AVENUE
LOS ANGELES, CALIFORNIA 90095-1524
(310) 825-1071 FAX (310) 206-5976

September 24, 2010

Ms. Bonny Neely
Chair, California Coastal Commission
Board of Supervisors
825 Fifth street, Room 111
Eureka, CA 95501

RE: *Malibu Lagoon Restoration*

Please permit me to communicate in writing my assessment of the restoration needs for Malibu Lagoon (I will not be able to attend the upcoming October 2010 meeting of the California Coastal Commission due to travel).

I am a recently retired UCLA professor specializing in ecosystem analysis, endangered species conservation, biogeography, and conservation education. I have visited Malibu Lagoon since 1972. I have taken many students over the years to the lagoon as part of undergraduate and graduate field courses. I am also a keen wildlife photographer. Currently I possess digital photos of lagoon habitats and biota from more than 80 visits (25 from 2010) and have been preparing an educational book on its birdlife in recent months. I have attended one of the formal stakeholder meetings in the Malibu City Hall where alternative solutions for Malibu Lagoon were presented. I have also visited and -- in some cases -- researched other coastal wetlands and salt ponds in California, Texas and Europe.

Malibu Lagoon Has Changed

My perspective on the nature of Malibu Lagoon has shifted this year prompted by a dramatic change of this coastal ecosystem and its public use:

1. The level of users has sharply increased since the opening of the increased parking lot and picnic area. Visitors are surfers, sunbathers, tourists, school and surfing classes as well as occasional birders and photographers. During warm and sunny days, there have literally been hordes of people on the beach. The parking lot was full and closed at those times.
2. The winter storms deposited an unprecedented amount of relatively high and broad beach that has lasted all summer. For the first time, a large 'bird island' was created.

3. I cannot comment on water pollutants inside the lagoon; however, it seems as if the water clarity in the side channels has recently improved compared to previous years.
4. Bird species richness and bird numbers have been very high if not exceptional in 2010. 'Bird island' saw a first ever breeding attempt by several pairs of black skimmers in August.
5. In spite of the continuous presence of often large human groups along the beach, many bird species have adapted to this feature and learned to basically disregard the human factor. As a result, we can approach plovers, sandpipers, gulls, terns, cormorants, egrets and pelicans much closer than almost anywhere else. This offers a unique opportunity for nature education at all levels (kids, families, visitors, local beach neighbors).

A Unique Ecosystem

Seen as an ecosystem, Malibu Lagoon has no equals. It is an unusually tiny park with several fragments of freshwater creek, ocean beach, brackish pond, saltwater lagoon, willow/mulefat shrubland, saltmarsh pockets, and mudflats. It is not natural; rather it is human-constructed, impacted and used. But because it has natural drivers in the form of stormwater from Malibu Creek (winter) and wave and sediment action from the Pacific it changes by season and sometimes from year to year. Part of its appeal is its changing habitat mosaic and its liberal access to human visitors.

What Should Not Be Done

It would be unwise to try to permanently control this tiny wetland or to recreate a more natural saltmarsh ecosystem. Because of its unique natural and social attributes, there is really nothing wrong with the present park design and practice. In fact, it seems optimal. The existing access trail with its bridges is of exceptional value. No other plan will provide the close interface between people and wildlife that can be observed every day. The existing problems with water quality, water circulation, alien plants, etc. are largely of an external nature, i.e. they come into the lagoon system from the outside and should be solved before entering the lagoon.

The sudden natural emergence of a sandy island in the lagoon has eliminated any need for the artificial creation of such islands. The great abundance of shorebirds on this island has shown its great ecological value at no cost to the taxpayer.

I oppose the massive disturbance and destruction of the existing habitat mosaic as planned by the design alternatives that I have seen. The mere existence of precious bond money should not become the driving factor for dismantling a thriving ecosystem that has developed since the 1983 bulldozing of the former lagoon landscape.

What Should and Can Be Done

I am quite certain that a mere *one tenth* of the bond funds may be needed for minor improvements and management processes of the lagoon. At present, however, the State

Parks do not have a shining record with respect to even minor management issues of Malibu Lagoon. Charging \$12 for daily parking has not resulted in (a) clean toilet facilities, (b) removal of a huge heap of decomposing and rotting garbage and weeds near the beach entrance, (c) the prompt removal of dead pelicans and cormorants in the winter (10-20 carcasses lying and floating around for weeks), and (d) the presence of a park/wildlife education officer during periods of peak use. It will be interesting to see if the construction/development sector of California State Parks can embrace a drastically downscaled improvement project for Malibu Lagoon.

I would certainly be available for advice and concrete recommendations following the rejection of the proposed restoration plan.

Sincerely,



Hartmut S. Walter
Professor Emeritus
Email: hswalter@gmail.com

EXHIBIT C

ATTACHMENT TO SECOND DECLARATION OF ROY VAN DE HOEK

REPLY BRIEF IN SUPPORT OF PRELIMINARY INJUNCTION
OR, IN THE ALTERNATIVE, A STAY ORDER

EDUCATION

- M.A., Biology, Rutgers Univ., 1978
- B.A., Geology, Rutgers Univ., 1970

AWARDS & RECOGNITIONS

- Santa Barbara Independent: Local Hero Award (1998)
- American Planning Association: Award of Merit for Carpinteria Salt Marsh Management Plan (1998)
- UCSB Staff Assembly: Citation of Excellence Award (1999)
- Southern California Wetland Recovery Project: Wetland Recovery Award (2000)
- Santa Barbara Wildlife Care Network: Wildlife Sanctuary Award (2001)
- Santa Barbara Channelkeeper Wetland Ecology Award (2002)
- Regional Water Quality Control Board, Central Coast District: Water Quality Improvement Award (2003)
- UCSB Environmental Studies Program: Community Service Award (2003)
- Santa Barbara County Board of Supervisors Resolution (2004)
- California State Assembly Resolution (2004)
- City of Carpinteria Mayoral Recognition (2004)
- American Society of Landscape Architects: National Honor Award in General Design for "Lagoon Park" (2008)
- National Wetlands Award, Conservation and Restoration Category (2009 Nominee)

WAYNE R. FERREN, JR.

Project Manager, Ecological Services

EXPERIENCE

Mr. Ferren has an extensive background in biological investigation with special emphasis in restoration ecology, wetlands, and botanical resources in northeastern North America and California. His experience includes enhancement, restoration, and creation of wetland and upland habitats, recovery of special interest species, and other elements of ecological restoration as well as floristic, taxonomic, vegetation analyses; environmental impact analysis; and wetland delineations. He has provided direct oversight and in-depth participation in projects and investigations, from start to finish, including aspects of design, planning, instruction, implementation, maintenance, and long-term management. He has authored or contributed to more than 90 scientific publications, reports, and chapters; presented numerous workshops and invited lectures; and received 12 environmental awards for his work in conservation, restoration, planning, and management.

PREVIOUS WORK EXPERIENCE

Herbarium Assistant and Collections Manager, ANSP (1971 – 1978)
 Curator, UCSB Herbarium (1978 – 1995)
 Director, Carpinteria Salt Marsh Reserve (1987 – 2001)
 Executive Director, UCSB Mus. of Syst. and Ecology (1995 – 2004)
 Associate Director, UCSB Natural Reserve System (1997 – 2001)
 Senior Environmental Scientist, Maser Consulting P.A. (2004 – 2007)
 Assist. Project Manager, Maser Consulting P.A. (2007 – 2008)
 Project Manager, Ecol. Serv., Maser Consulting P.A. (2009 -)

PUBLIC SERVICE

Editor, Madrono, A West American Journal of Botany (1985 – 1987)
 City of Carpinteria Marsh-Park Steering Comm. (1988 – 2003)
 President, California Botanical Society (1994 – 1997)
 Board of Directors, California Botanical Society (1997 – 1999)
 Land Trust for Santa Barbara County, Advisory Comm. (2000 – 2004)
 Santa Barbara Creek Restoration Citizen's Adv. Comm. (2002 – 2004)
 Zoning Board of Adjustment, Southampton Twp, New Jersey (2008 -)
 Board of Trustees, Flora of NJ Project (2009 -)
 Board of Trustees, Rancocas Conservancy (2010 -)

PROFESSIONAL AFFILIATIONS and CERTIFICATIONS

California Botanical Society
 Society of Ecological Restoration
 Society of Wetland Scientists
 Philadelphia Botanical Club
 Rutgers Univ. Wetland Delineator Certification



WAYNE R. FERREN, JR.

PUBLICATIONS, REPORTS & PROJECTS (ECOLOGICAL RESTORATION)

Maser Consulting P.A. 2011. Construction Completion Report: Parcel-A Capping and Wetlands Remediation Project, Borough of Sayreville, Middlesex County, NJ. Prepared for Sayreville Seaport Associates LLC. Prepared by Maser Consulting P.A., Red Bank, NJ. MC Project No. 05000500D.

Maser Consulting P.A. 2010. *Union County Four (4) Lakes Restoration Project Initial Scoping Report for Briant Pond*. Submitted to Division of Engineering, County of Union, Scotch Plains, NJ. Submitted by Maser Consulting P.A., Red Bank, NJ. MC Project No. 08000459B.

Maser Consulting P.A. 2010. *Union County Four (4) Lakes Restoration Project Initial Scoping Report for Rahway River Park Lake and Lagoon*. Submitted to Division of Engineering, County of Union, Scotch Plains, NJ. Submitted by Maser Consulting P.A., Red Bank, NJ. MC Project No. 08000459C.

Maser Consulting P.A. 2010. *Union County Four (4) Lakes Restoration Project Initial Scoping Report for Nomahegan Lake*. Submitted to Division of Engineering, County of Union, Scotch Plains, NJ. Submitted by Maser Consulting P.A., Red Bank, NJ. MC Project No. 08000459D.

Maser Consulting P.A. 2009. *Union County Four (4) Lakes Restoration Project Initial Scoping Report for Meisel Pond*. Submitted to Division of Engineering, County of Union, Scotch Plains, NJ. Submitted by Maser Consulting P.A., Red Bank, NJ. MC Project No. 08000459A.

Ferren, W. R. Jr. and G. DeBlasio. 2008. *Grand Canal Restoration – Non-Native Vegetation Removal Plan, City of Los Angeles, California*. Prepared for Lennar Urban and Lee Homes. Prepared by Maser Consulting, P. A., Red Bank, NJ. MC Project No. 05001547B&C.

Walker, R. and W. R. Ferren Jr. 2008. *Revised Conceptual Wetland Mitigation Plan, National Lead Redevelopment Site (Including a Comparative Functional Assessment of Wetland Resources), Borough of Sayreville, Middlesex County, New Jersey*. Prepared for O'Neill Properties, King of Prussia, PA. Prepared by Maser Consulting P. A., Red Bank, NJ. MC Project No. 05000500D. (April 2008).

Maser Consulting P.A. 2008. *Diagnostic-Feasibility Study of Centennial Lake for Rider University, Lawrenceville, NJ*. Prepared by Maser Consulting P.A., Hamilton, NJ. (December 12, 2008)

Ferren, W. R. Jr., J. C. Callaway, and J. B. Zedler. 2007. *Ballona Wetland Restoration Project: Habitat Descriptions and Candidate Ecosystem Functions for Restoration Alternatives at Ballona Wetland, Los Angeles, California*. Prepared for the Ballona Wetland Restoration Science Advisory Committee and the California State Coastal Conservancy. (Draft: June 2007).

Walker, R. and W. R. Ferren Jr. 2007. *Jumping Brook Sediment Trap Restoration Plan, Township of Neptune, Monmouth County, New Jersey*. Prepared for Jumping Brook Country Club, Cranbury, New Jersey, and the NJDEP, Bureau of Coastal & Land Use Compliance and Enforcement, Toms River, NJ. Prepared by Maser Consulting P. A., Red Bank, NJ. MC Project No. 06000028B

Ferren, W. R. Jr. 2007. *Pre-design Restoration Concept Report on the Biological Resources of Grand Canal, City of Los Angeles, California*. 2007. Prepared for PSOMAS, Los Angeles, CA. Prepared by Maser Consulting P. A., Red Bank, NJ. MC Project No. 05001547A

Walker, R. and W. R. Ferren Jr. 2006. *Habitat Construction and Year-One Monitoring Report for Spinnaker Pointe, Block 451, Lot 8, Borough of Sayreville, Middlesex County, New Jersey*. Prepared for The Matzel and Mumford Organization, Hazlet, NJ and NJDEP. Prepared by Maser Consulting P. A., Red Bank, NJ. MC Project No. 05001436A

Walker, R. and W. R. Ferren Jr. 2006. *Environmental Impact Assessment and Restoration Report, Jumping Brook Country Club, Detention Basin Failure. Township of Neptune, Monmouth County, New Jersey*. Prepared for Jumping Brook Country Club, Cranbury, New Jersey. Prepared by Maser Consulting P. A., Red Bank, NJ. MC Project No. 06000028B

Walker, R. W. and W. R. Ferren Jr. 2006. *Mitigation Monitoring Report, Year-Two: 2006, For Sanitary Sewer Replacement, Block 6, Lots 8-15, 24, & 25; Block 24, Lots 1, 13, & 14, Borough of Matawan, Monmouth County, New Jersey*. Prepared for the Borough of Matawan. Prepared by Maser Consulting P. A., Red Bank, NJ. MC Project No. MAT003.

Ormond Beach Wetland Task Force. 2006-2009. Ormond Beach Wetland Restoration Project, Ventura County, California. California State Coastal Conservancy. (Member)



WAYNE R. FERREN, JR.

Walker, R., W. R. Ferren Jr., and W. Olson. 2005. *Wetlands Restoration Monitoring Report: 2005 (Year-Three). Prepared for "La Mer", Block 449, Lots 6.1704, 10.02, 12 & 13, Borough of Sayreville, Middlesex County, New Jersey, for Kaplan Companies, Highland Park, NJ. Prepared by Maser Consulting P. A., Red Bank, NJ. MC Project No. 99-144A*

Walker, R. and W. R. Ferren Jr. 2005. *Concept Mitigation Plan, Applewood Farms, LLC. Tax Lots L03.003-4-64.1 & 103.003-4-13.11, Town of Marlborough, Ulster County, New York. Prepared for Rieger Homes, Inc., Newburgh, NY. Prepared by Maser Consulting PA, Red Bank, NJ. (MC Project No. 03-0808A).*

Ballona Wetland Restoration Science Advisory Panel. 2005-2009. *Ballona Wetland Restoration Project, Los Angeles, California. California State Coastal Conservancy. (Member)*

Ferren, W. R. Jr. 2002. *Concept Environmental Enhancement Plan for Campus Lagoon Park: Phase II. University of California, Santa Barbara.* Prepared for the Manzanita Village Student Housing Project: Housing and Residential Services, UCSB.

Ferren, W. R. Jr. 2000. *Concept Environmental Enhancement Plan for Campus Lagoon Park, Phase I. University of California, Santa Barbara.* Prepared for the Manzanita Village Student Housing Project: UCSB Physical Facilities, Office of Business Services.

Ferren, W. R. Jr., D. M. Hubbard, S. Wiseman, A. K. Parikh, and N. Gale. 1998. *Review of 10 years of vernal pool restoration and creation in Santa Barbara, California.* In, C. W. Witham et al., Ecology, Conservation, and Management of Vernal Pool Ecosystems - Proceedings from a 1996 Conference. California native Plant Society, Sacramento, CA.

Ferren, W. R. Jr. 1998. *Design and Construction of the Carpinteria Salt Marsh Restoration Plan, Phase I: Ash Avenue Wetland Project (Abstract).* Southern California Academy of Sciences Annual Meeting, May 1-2, 1998. Symposium: Wetlands Restoration.

Ferren, W. R. Jr. (Project Manager). 1997. *University of California, Santa Barbara North Bluff Enhancement Project Concept Plan.* Prepared for the UCSB Facilities Management and the Office of Budget and Planning. Museum of Systematics and Ecology, Dept. of Ecology, Evolution, and Marine Biology, UCSB.

Moffett and Nichol Engineers. 1996. *Carpinteria Salt Marsh Enhancement Project, Phase I: Ash Avenue Wetland Project.* Prepared for the City of Carpinteria. (Ferren - Client's Biologist)

Wallace, Roberts, and Todd, Landscape Architects. 1993. *University Center Lagoon Wetlands Restoration Feasibility Study.* Prepared for the University of California, Santa Barbara. (Ferren - Project Biologist)

Walden, C. L., J. S. Sawasaki, and W. R. Ferren Jr. 1992. *Creation and monitoring of vernal pools in Del Sol Open Space and Vernal Pool Reserve, Isla Vista, California.* Proceedings of the Pacific Division, AAAS, vol 11, Part I. (Symposium Abstract: Restoration and creation of wetlands in coastal central and southern California)

Spectra Information and Communication, Inc. 1992. *San Jose Creek Restoration Plan.* Prepared for Santa Barbara Urban Creeks Council, Santa Barbara County Flood Control District, and California State Water Resources Department. (Ferren - collaborator)

Ferren W. R. Jr. and J. S. Sawasaki. 1992. *Restoration, creation, and inoculation of vernal pool habitat in Santa Barbara County, California.* Proceedings of the Pacific Division, AAAS, vol 11, Part I. (Symposium Abstract: Restoration and creation of wetlands in coastal central and southern California)

Callaway, R., C. L. Walden, and W. R. Ferren Jr. 1992. *Plant distribution and abundance in vernal pools at Ellwood Mesa and Del Sol Reserve.* in W. R. Ferren Jr. (Project Manager), Del Sol Open Space and Vernal Pool Enhancement Plan: Fifth-year Post-Implementation Environmental Monitoring Report. A Report to the Isla Vista Recreation and Park District and the County of Santa Barbara. Dept. of Biological Sciences, University of California, Santa Barbara.

Ferren, W. R. Jr. and E. Gevirtz. 1990. *Restoration and creation of vernal pools: cookbook recipes or complex science?* In, R. Schlising and D. Ikada (eds.) Vernal Pool Plants: Their Habitat and Biology. Proceedings of a Symposium Sponsored by the Botanical Society of America, AAAS, and California State University, Chico.

Ferren, W. R. Jr. and D. Pritchett. 1988. *Enhancement, Restoration, and Creation of Vernal Pools at Del Sol Open Space and Vernal Pool Reserve.* The Herbarium, Dept. of Biological Sciences, UCSB, Environmental Report No. 13.



EXHIBIT D

ATTACHMENT TO SECOND DECLARATION OF ROY VAN DE HOEK

REPLY BRIEF IN SUPPORT OF PRELIMINARY INJUNCTION
OR, IN THE ALTERNATIVE, A STAY ORDER

CURRICULUM VITAE

Robert J. van de Hoek, RC

**Conservation Biologist, Wetlands Scientist
322 Culver Boulevard, Suite #317
(310) 821-9045
Los Angeles (Playa del Rey), CA 90293
royvandehoek@naturespeace.org**

EDUCATION

- 1986 California State University at Northridge (CSUN) Baccalaureate Degree in Biological Sciences in Environmental Option, Minor in Anthropology (Focused Studies in Birds, Fish, Mammals, Ecology, Invertebrate Zoology)

- 1986 California State University at Northridge (CSUN) Baccalaureate Degree in Geography; Minor in Geological Sciences

- 1988 University of Nevada at Reno (UNR) Graduate Studies Program Training in Hydrology, Wildlife, Range Conservation

- 1988 California State University at Northridge (CSUN) Graduate Master Study in Geography with Emphasis in Geomorphology and Biogeography

- 1995 University of Nevada at Reno (UNR) Graduate Studies Program Training in Cultural Resources Management in Zooarchaeology, Archaeo. Theory

- 1996 County of Los Angeles Department of Parks and Recreation (LACDPR) in Environmental Education- Naturalist Docent Certificate

- 2005 El Camino College, Certificate in Environmental Horticultural Science (Propagation, Landscape Design, Field Entomology, Pests, Irrigation)

PROFESSIONAL EXPERIENCE

- 1999-present** **Wetland Scientist, Wildlife Biologist, Restoration Ecologist,
Outdoor Science Educator, Environmental Tour Guide
Wetlands Defense Fund and Ballona Institute
Los Angeles (Playa del Rey), CA 90293**
- 1996-present** **Supervising Naturalist and Recreation Supervisor
Los Angeles County Department of Parks and Recreation**
- 1989-1994** **Wildlife Biologist, Botanist, Archaeologist
Bureau of Land Management, U.S. Department of Interior**
- 1987-1988** **Professor – Instructor in Geography and Biology
Lassen Community College at Susanville, CA**
- 1989-1990** **Professor – Instructor in Geological Sciences
Bakersfield Community College at Bakersfield, CA**
- 1991-1992** **Professor – Instructor in Natural History Sierra Nevada
Cerro Coso Community College at Ridgecrest, CA**
- 1983-1988** **Hydrologic Technician and Archaeologist
Modoc National Forest in U.S. Dept. of Agriculture**
- 1980-1982** **Land-use Field Mapper
Department of Conservation, State of California**
- 1980-1982** **Marine Fisheries Biological Technician
Biology Department, Calif. State University at Northridge**
- 1978-1979** **Paleontology Field Assistant
Geology Department, Calif. State University at Northridge**

HONORS

1986-1992

Stanley Ross Scholarship in Geography

U.S. Dep't of Agriculture (Modoc Nat. For.) 1000 Hours Service in CRM

1993-2011

Commendation for Past President, 2009-2010, Whittier Audubon Society

Seventeen Honoraria: California Native Plant Society, Nat. Audubon Society

Commendation, City of Los Angeles – Wetland Restoration Stewardship

Commendation, California Senate – Wetland Environmental Stewardship

Commendation, California Assembly – Wetland Conservation Stewardship

Commendation, U.S. House of Rep. – Wetlands Education Stewardship

Commendation, Los Angeles County Supervisors – “Green” Stewardship

PROFESSIONAL AND CONSERVATION ASSOCIATIONS

Southern California Academy of Sciences

Southern California Botanists

The Wildlife Society

California Native Plant Society

National Audubon Society (including various chapters)

Ecological Society of America

National Arbor Foundation

Western Society of Naturalists

Society for Ecological Restoration

Association of American Geographers

California Parks and Recreation Society

California Board of Professional Recreation

Society of California Archaeology

Society of Environmental Educators

SELECTED SAMPLE OF PUBLICATIONS AND BOOKS*

1988. Biogeography of Alien Plants on the Channel Islands. Annual Conference of the Association of American Geographers, 2 pages.
1991. Carrizo Plain Birds: Checklist Guide. U.S.D.I. 2 p.
1991. Carrizo Herpetofauna: Natural History Guide. USDI. 2 p.
1994. Promotion of exotic weed establishment by endangered giant kangaroo rats (*Dipodomys ingens*), in a California grassland. Biodiversity and Conservation 3: 524-537. By P. M. Schiffman. [Note: Robert van de Hoek Acknowledgment Citation on Knowledge, Ideas, and Assistance].
1997. Wing Reduction in Island *Coreopsis gigantea* achenes. Madrono 44:394-395. By P. M. Schiffman. [Note: Robert van de Hoek Acknowledgment Citation on Knowledge, Ideas, Assistance].
1997. California's Wild Gardens: A Living Legacy. Phyllis Faber, Ed. UC Press, Berkeley, California. Bakersfield Cactus (Sidebar). 171 p.
2000. Great Blue Heron Colony at Marina Del Rey. Report Prepared For California Department of Fish and Game. 78 p.
2003. Malibu Lagoon Ecology. Ballona Institute Publication #56. On-line Publication: www.naturespeace.org/malibulagoon.htm.
2004. Floristics and Ecology at Malibu Lagoon in 1959 and Implications for Restoration in 2004-2009. Wetlands Defense Fund Publication #1. 5p. On-line Publ.: www.naturespeace.org/malibu1959flora1raven.htm
2005. California's Wild Gardens: A Guide to Favorite Botanical Sites. P. Faber, Ed. UC Press, Berkeley. Bakersfield Cactus (Sidebar). 236 p.
2005. Conservation Biology, Restoration, Recovery: Ballona, Part IA. Ballona Institute Publication #71. On-Line Publication: www.naturespeace.org/abramsLA1ballona1902.htm.
2005. Conservation Research, Restoration, Recovery: Ballona, Part IIA. Ballona Institute Publication #72. On-Line Publication, www.naturespeace.org/abramsLA2ballona1903.htm.

2010. Biogeography and Ecology Notes on *Ruppia* in California: Conservation Implications and Extinction Risks of a Rare Native Plant Unfortunately Mistakenly Considered Common and Unimportant. Wetlands Defense Fund Report Publication #10. 11p.
2010. Historical Ecology Notes of Three Breeding Birds at Malibu Lagoon: Bald Eagle, California Black Rail, and Red-winged Blackbirds in 1930s-1940s. Wetlands Defense Fund Report #15. 2p.
2011. Peter Moyle and Camm Swift: Inland Fishes of Southern California. Wetlands Defense Fund Report #20. 1p.
2011. Native Breeding Birds in 2011: Malibu Lagoon, Los Angeles County, California. Wetlands Defense Fund Report #21. 2p.
2011. Wetland Native Plants at Malibu Lagoon. Wetlands Defense Report #23. 6p.

* Note: The above list is a sample of the over 100 publications I have authored, some of which I have submitted to various California State and Federal agencies in furtherance of conservation biology, ecological restoration, and endangered species protection.