



January 27, 2020

Mr. Naeem Siddiqui  
Project Environmental Coordinator  
Naeem.A.Siddiqui@usace.army.mil

**Subject:** East San Pedro Bay Ecosystem Restoration Feasibility Study Draft IFR Review Comments.

On behalf of the Surfrider Foundation Long Beach Chapter, I am writing this letter in response to the East San Pedro Bay Ecosystem Restoration Feasibility Study Draft IFR, released in November 2019 (herein referred to as the Draft Report)<sup>1</sup>.

## Background

The Surfrider Foundation is dedicated to the protection and enjoyment of the world's ocean, waves and beaches through a powerful activist network. While supporting the mission and principles of the Surfrider Foundation, the Long Beach Chapter is dedicated to reconfiguring the Long Beach Breakwater to bring waves back to Long Beach.

In June of 1996, the U.S. Army Corps of Engineers (USACE) contacted *Long Beach Press Telegram* reporter Bill Hillburg about celebrating the 50th anniversary of the Long Beach Breakwater. His response was a three part article recommending removal or reconfiguration of the Breakwater. The Long Beach Chapter of the Surfrider Foundation were born of this public response and has been advocating for reconfiguration of the Breakwater ever since. This advocacy consisted of persistent public outreach to citizens, elected officials, and government staff. In year 2005 the Long Beach City Council agreed to study the issue with the USACE. This effort concluded in the USACE determining that the federal government does have interest in proceeding to a feasibility study under the auspices of a single purpose ecosystem restoration study (herein referred to as the Study).

---

<sup>1</sup> East San Pedro Bay Ecosystem Restoration Feasibility Study, City of Long Beach, CA, Draft Integrated Feasibility Report and Environmental Impact Statement/ Environmental Impact Report. November 2019.

After 24 years working on this project, our chapter is happy to have the opportunity to engage with the USACE in seeking means to achieve our goals. It is understood that our chapter goals do not exactly match the primary missions of the USACE. Instead we look to areas where our interests overlap and all parties may benefit.

## Top Level Comments

Back in 2016, the USACE agreed to a study with the goals of ecosystem restoration, improving water circulation<sup>2</sup>, tidal circulation, and water clarity<sup>3</sup>. After the Study was initiated, and for reasons unknown, it seems that the USACE abandoned these goals. What was delivered in the Draft Report is not ecosystem restoration, but ecosystem enhancement without any water circulation, tidal circulation, or water clarity improvements.

When the Study began it was sold as ecosystem restoration, which is defined by the USACE<sup>4, 5, 6</sup> as:

The objective of ecosystem restoration is to restore degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition. Restored ecosystems should mimic, as closely as possible, conditions which would occur in the area in the absence of human changes to the landscape and hydrology<sup>7</sup>.

To quote from the Draft Report the goal was to “Restore and improve aquatic ecosystem structure and function for increased habitat biodiversity and ecosystem value of the SBC (sic) within the Proposed Project Area of ESPB.” In laymen terms this means the USACE wants to import high value habitats from the Southern California Bight into the Project Area. This goal matches well with the USACE definition of ecosystem enhancement:

...this term now implies making the habitat better for some species than it would have been naturally in the absence of human intervention. Since this goes

---

2 Objectives, City of Long Beach East San Pedro Bay Ecosystem Restoration Feasibility Study, Community Scoping Meeting –Thursday April 7, 2016, Bixby Park Community Center, Long Beach

3 Study Opportunities. East San Pedro Bay Ecosystem Restoration Feasibility Study, U.S. Army Corps of Engineers, Los Angeles District, Public Scoping Meeting, April 7, 2016, Bixby Community Center, Long Beach

4 Department of the Army U.S. Army Corps of Engineers. Water Resources Policies and Authorities, Digest of Water Resources Policies and Authorities. Engineer Pamphlet 1165-2-1. July 30, 1999.

5 Department of the Army, U.S. Army Corps of Engineers. Water Resources Policies and Authorities Civil Works Ecosystem Restoration Policy. Engineer Regulation 1165-2-501. 30 September 1999

6 Department of the Army, U.S. Army Corps of Engineers. Water Resources Policies and Authorities Ecosystem Restoration Supporting Policy Information. Engineer Pamphlet 1165-2-502.. 30 September 1999

7 Department of the Army U.S. Army Corps of Engineers. Planning Planning Guidance Notebook. Engineer Regulation 1105-2-100. 22 April 2000.

beyond the goal of ecosystem restoration, the use of the term “enhancement” is rarely appropriate in Corps documents.<sup>8</sup>

As stated in our 2016 Surfrider Letter<sup>9</sup>, to the USACE, Surfrider generally supports ecosystem enhancement, except in the current Study. Detailed reasons for this are provided in the 2016 Surfrider Letter.

While USACE guidelines allow and encourage ecosystem restoration, they prohibit ecosystem improvement or enhancement. The USACE should revisit the Study to eliminate ecosystem enhancement alternatives and re-insert the water circulation, tidal circulation, and water clarity goals and objectives.

The USACE should re-analyze alternatives under the assumption that water column and sandy bottom habitats have value. By preemptively excluding these habitats, the Draft Report directly caused breakwater alternatives to fail in the alternatives comparison. According to CEQA, the Draft Report must analyze a range of alternatives. Alternatives must be feasible and capable of meeting most of the basic project objectives while avoiding or substantially lessening project impacts.<sup>10</sup>

By excluding critical habitats, Surfrider is concerned the USACE is changing the scope of the project to better meet the desired results of the analysis. Another way of saying it is the USACE modified their scope of work to favor certain alternatives and exclude other alternatives. Sadly, this approach is all too common in planning and engineering, but more importantly this violates the intent of CEQA/NEPA. Omitting reasonable and practicable alternatives not only undermines bedrock environmental laws, but the USACE has missed a critical aspect of NEPA by not clearly explaining why omitted alternatives are not reasonable (or prudent or practicable), and provide thorough analysis and details as to why alternatives were not selected.<sup>11</sup>

## Detailed Comments

The following comments are in reference to specific pages in the Draft Report and associated appendices.

Page xi. Line 24-29, Figures ES-1, ES-2. Page 4-3, Lines 7-14. If the local sponsor is the City of Long Beach, why does the Project Area include Seal Beach and Anaheim Bay? Is it expected that the local sponsor would build a project for another city? If there is a good reason to include waters off Seal Beach in the Project area, then why doesn't

---

8 Appendices C & E. Department of the Army. U.S. Army Corps of Engineers. Planning Planning Guidance Notebook. Engineer Regulation 1105-2-100. 22 April 2000.

9 Surfrider Foundation, Long Beach Chapter. To Mr. Naeem Siddiqui. Subject: East San Pedro Bay Ecosystem Restoration Feasibility Study, April 26, 2016

10 CEQA Guidelines §15126.6; 40 C.F.R. §§1502.13-14.

11 31 NEPA Regulations, 40 C.F.R. § 1502.14.

the Project Area extend through Cabrillo Beach. Why is the Study Area larger than the Project Area? Why does the Study Area include regions outside of the local sponsor's jurisdiction?

Page xi, Lines 32-36; Page 2-1, Lines 28-31. We strongly object to the removal of water circulation, tidal circulation, and water clarity from the list of project goals and objectives. These were in early versions of the goals and objectives from April 2016. Water quality is specifically stated as a desirable component of ecosystem structure in the USACE Planning Guidance Notebook from 2000.

Page xi, Line 37. The 1996 USACE Planning Manual<sup>12</sup> excludes enhancement of ecosystems or "improve aquatic ecosystem". This Study purpose violates Corps guidance.

Page xiii, Lines 1-12. The stated CEQA objectives for the Study are overly narrow, inconsistent with the Study purpose, developed in collaboration with the local sponsor (City of Long Beach), and foreordain selection of an ecosystem enhancement alternative over ecosystem restoration alternative.

Page xiii, Lines 30-33. It states that measures were filtered using P&G 1983. How can this be since those 1983 Principles and Guidelines only considered National Economic Development (NED) guidelines but did not include National Ecosystem Restoration (NER) guidelines, which are the basis of any ecosystem restoration study?

Page xiii, Lines 35 – 41. Why was sandy bottom habitat excluded from the habitat measures? By excluding this habitat the Draft Report directly cause all breakwater alternatives to fail in alternatives comparison.

Page xiv, Lines 15, 16. This is a circular argument. There were no habitat benefits from breakwater reconfiguration since the habitats that would benefit from breakwater reconfiguration were removed from the listed scope of work early on in the Study. We believe that wave driven sandy bottom habitats, which do have value, were removed after the breakwater alternatives were found to be difficult.

Page xiv, Lines 39-40. Page 4-62, Line 20. Why were the positive navigation benefits of breakwater reconfiguration, as discussed in page 4 of the 2016 Surfrider Letter excluded from the Draft Report? The Breakwater as it currently exists, is a hazard to small craft navigation. It is a common occurrence for small craft to lose propulsion outside the Breakwater and drift onto the rocks. This has resulted in countless rescue operations by the Coast Guard, Lifeguards, and Vessel Assist. These incidents have resulted in damage to the craft, injury, and death. If the crest of the Breakwater were removed to a depth sufficient for vessels to pass over, they would not flounder on the Breakwater. Reconfiguration of the breakwater would be a significant benefit to navigation and this should be considered. Navigation in US Waters is one of the key missions of the USACE.

Page xv, Page xxi, line 2, Table ES-1, b. Page 4-6, Line 1 & 2. Page 4-35, Line 23 - 25. By definition, intertidal requires the habitat to be exposed to both water and air through

---

12 Planning Manual by Charles E. Yoe, Ph.D., Principal, The Greeley-Polhemus Group, Inc. and Kenneth D. Orth, U.S. Army Corps of Engineers, Water Resources Support Center, Institute for Water Resources, November 1996 IWR Report 96-R-21.

tidal action from time to time. Reefs below -20' MLLW are not intertidal, they are subtidal. The lowest recorded tide in LA Outer Harbor was -2.73' MLLW in December 1933. Reef crests below this elevation (stated to be -3' MLLW to -10' MLLW on Page 4-35) are subtidal.

Page xvi, Lines 23 & 24; Page xxiv, line 23. There is a good likelihood that the proposed reefs will cause shoreline erosion. There is extensive literature on subtidal, shore-unconnected reefs that were intended for salient development that actually caused shoreline erosion in their lee. One such artificial reef had this exact problem in Long Beach in the 1970's.

Page 1-8 line 4. The Long Beach City Council approved a motion to begin working with the USACE on the Breakwater effort in 2005.

Page 1-10 line 8. Which constraints limit alternatives to the Project Area? Long Beach is likely not interested in paying for a project in San Pedro or Seal Beach, so why were they included in the Study Area and Project Areas?

Page 1-10, line 14. San Pedro Bay extends from San Pedro to Huntington Beach as defined by NOAA charts 18749 and 18746. The Bay off of the shores of Long Beach is central San Pedro Bay, but more commonly referred to as Long Beach Outer Harbor. East San Pedro Bay is Seal Beach and Huntington Beach.

Page 1-10, Lines 15, 16. The Project Area also includes Seal Beach, Anaheim Bay, and offshore of Surfside, which really should not be included in the Project Area

Page 1-10, Lines 8-9. What "practical constraints" exclude restoration in other parts of the Study Area? There have been restoration projects in Western San Pedro Bay in the past such as the Salinas de San Pedro Salt Marsh. There are restoration opportunities at Cabrillo Beach and along the Los Angeles Breakwater as well. If the constraint is that the local sponsor, City of Long Beach, would not likely pay for a project in San Pedro, then why include San Pedro in the Study Area at all?

Page 1-11, Lines 5-6. It is stated that "Western San Pedro Bay does not offer large scale habitat restoration opportunities due to existing Port of Long Beach and Port of Los Angeles infrastructure and heavy vessel traffic." This is an unsupported opinion. Of course there are spaces for restoration opportunities inside and outside the Los Angeles Breakwater and in Cabrillo Beach (both inside and outside the breakwater). This is not a reason for excluding Western San Pedro Bay from the Project Area. Instead it is clear that this justification was developed as a way to exclude Western San Pedro Bay, keeping the Project Area near Long Beach, who are the local project sponsor. Also, this is part of a larger effort to extend the Study Area out to areas that have historically had more traditional high value habitats that could be imported thus making ecosystem enhancement look like ecosystem restoration and skirting USACE guidelines.

Page 2-2, Lines 7-13. The kelp beds shown and discussed are outside the Study Area. Is there evidence of kelp beds historically existing within the Study Area?

Page 2-2, Lines 18-20. Show evidence of rocky reef areas within the Study Area or Project Area.

Pages 2-2 and 2-3. Show evidence of all proposed habitat to be “restored” in the Study Area and Project Area including eelgrass, oyster beds, etc.... These ecosystems should have historically existed in natural conditions and have been subsequently degraded, to quality for restoration under P&G 1996 guidelines.

Page 2-4, line 2. There are opportunities to restore water quality, sediment quality, wave mixing, benthic habitats, but these are not listed. Why aren't they listed?

Page 2-5, Lines 2, 3. Habitats listed in planning objectives have not been shown in the document to have existed historically and been degraded in either the Project Area or Study Area.

Page 2-5, Lines 23-37. Why are the constraints absolute? Can't some of the impacts to constraining resources be addressed through mitigation? By defining these constraints as being not mitigatable the Draft Report is scoping away any breakwater alternatives without reason. Is there an USACE guideline that states no mitigation is accepted for NER analysis? According to Page 6-22, Line 25, mitigation is provided for other accepted alternatives, but for some reason it is not allowed for the impacts stated on Page 2-5, Lines 23-37.

Page 2-7, Line 3, Figure 2-1. The figure shows giant kelp historically existing in the vicinity of the Study Area, but not in the Study Area. How can it be restored to the Study Area if it didn't exist there historically? If it did exist, please show evidence.

Page 3-16, Line 6, 7. Yes, “Benthic organisms are an important component of the food web and are indicators of environmental quality”, so why were they excluded from ecosystem habitat restoration measures?

Page 4-3, Line 30. Since the project is bringing new habitats into the Project Area from outside the Project Area, the project is applying enhancement methods, not restoration methods.

Page 4-3, Line 33. Sandy bottom habitats were excluded for practical and technical reasons. What are those practical and technical reasons? Is one because modifying the breakwater would be expensive and difficult? If so, that is not a reason to exclude the measure, according to the NER analysis; that should just impact the relative value of the measure as compared to other measures.

Page 4-4, Line 7. Page 4-8, Lines 7 & 8. By focusing on only enhancing high value, complex, and scarce habitats, and pre-emptively excluding sandy bottom habitats, the Draft Report subverts USACE NER guidelines which dictate that the measures should be compared on their restored habitat value and relative costs. According to Page 4-4, Lines 1 and 2, the water column and muddy bottom habitats have value, even though they are degraded. Presumably the value would increase if they were restored. The approach taken in the Draft Report uses a circular logic that excludes sandy bottom habitat from consideration then states that it fails the alternatives comparison due to that exclusion. It also falls under the practice of scoping away alternatives that seem undesirable for other, non-related reasons.

Page 4-8, Line 20. All “ecosystem enhancement” alternatives should score 1 since they do not meet the primary Study objective of “ecosystem restoration.”

Page 4-15, Line 40. We disagree with the characterization that changes to the breakwater will only have a minor effect on the time a particle remains in the ESPB. According to the surface flows in Appendix A-1, Figure 5.2 (Release 1 & 3), and Figure 5.4 (Release 1 & 2), removal of the breakwater clearly reduced the duration that the particle remained in ESPB. From the figures, it not possible to determine how much this duration is reduced. Some indication of residence time would be helpful.

Page 4-26, Line 3. Can't read labels in Figure 4-6. Please re-do.

Page 4-30. Line 27. Does the habitat evaluation modeling that concludes zero AAHU's for breakwater alternatives include the increased rocky bottom habitat resulting from removing the top of the breakwater, exposing rocky reef, or the improved water quality resulting from breakwater removal? We know from Army Corps Guidance<sup>13</sup> that "Water quality is an important component of ecosystem structure, and good water quality is generally integral to healthy functioning ecosystems."

Page 4-35, Line 29 should read "The multifunctional reefs could reduce or increase shoreline erosion rates and provide incidental coastal storm damage protection or increase storm damage. Also see page xvi, Lines 23 & 24.

Page 4-59, Line 8. Why does figure show the breakwater lowered to ground level? Has anybody suggested that this would be desirable or beneficial? The level shown in the 2016 Surfrider Letter removes the top 30 feet below MLLW or to a level beneficial for giant kelp habitat growth.

4-62, Line 42. In the year 2000, when the Surfrider Foundation sued Carnival Cruise Lines over their environmental impact report, the settlement stated that Carnival would not object to breakwater reconfiguration. Thus any expenses to Carnival resulting from breakwater reconfiguration would be assumed by Carnival and are not a concern of the USACE.

Page 4-63, Line 24, 25. The USACE assertion that "relocation of Navy operations to alternative sites would be cost prohibitive and unlikely to be supported due to public opposition" is illogical and an unsupported opinion. Currently, the Navy transfers potentially dangerous explosives at the explosives anchorage, which is approximately 2.5 miles from homes, schools, and businesses in Long Beach. A reasonable assumption would be that residents would greatly prefer moving the danger further away from their homes. Relocating the explosives anchorage to the lee of the Middle Breakwater in the Port of Long Beach would greatly reduce danger to residents, while restricting some port operations once per year. This would be a greater expense to the Port, but it's easy to see that residents would think it is a reasonable cost paid by the Navy and Port of Long Beach in support of national security and greater safety to the public.

---

<sup>13</sup> Department of the Army, U.S. Army Corps of Engineers. Water Resources Policies and Authorities Ecosystem Restoration Supporting Policy Information. Engineer Pamphlet 1165-2-502.. 30 September 1999.

Page 8-1, Line 10. The USACE performed extensive public outreach for the Study and the effort is greatly appreciated by the Surfrider Foundation.

Page 8-2, Lines 10 & 11. Of course the constraints that were used to exclude breakwater alternatives were designed to preemptively exclude those reasonable and practicable alternatives. For example, there is no need to have the constraints be absolute, where mitigation could be used to overcome the constraints. See comment about Page 2-5, Lines 23-37, above.

Page 8-2, Lines 12 – 21. We disagree with the arguments made in this section. See discussion on pages 2, 3, 4, 5, and 6 of this comment letter (above).

Page 8-2, Line 16 & 17. The USACE states that the “intent is not to “restore what may have historically existed within the exact footprint of East San Pedro Bay.” We disagree and put forth that their intent should be to restore what historically existed within the exact footprint of East San Pedro Bay. A geographic footprint is key to understanding ecosystem restoration, since the ecosystems occur in specific areas. It is so important that the USACE included specific reference to both the undisturbed area and the restored area, in their definition of ecosystem restoration. In their definition there is no indication that these areas are different from one another.

The objective of ecosystem restoration is to restore degraded ecosystem structure, function, and dynamic processes to a less degraded, more natural condition. Restored ecosystems should mimic, as closely as possible, conditions which would occur in the area in the absence of human changes to the landscape and hydrology. Indicators of success would include the presence of a large variety of native plants and animals, the ability of the area to sustain larger numbers of certain indicator species or more biologically desirable species, and the ability of the restored area to continue to function and produce the desired outputs with a minimum of continuing human intervention<sup>7</sup>.

A simple definition of restoration is to “restore some thing.” If one were restoring a chair, the chair would be that thing. It would include historical features of the chair and exclude anything that is not the chair. Restoration would occur to only the chair and nothing else. Other furniture in the room would definitely not be included. In our Study example, what is that thing? If the thing is ecosystems in the Project Area, restoration should be limited to ecosystems historically existing within the Project Area and any restoration would take place within the exact footprint of the Project Area. If the thing is ecosystems in the Study Area, ecosystems historically occurring within the Study Area could be restored, but this also would allow for projects anywhere in the Study Area. This is problematic since Long Beach isn’t likely to pay for projects in Cabrillo or the Port of Los Angeles. The same argument applies to the Southern California Bight. Clearly ecosystems in the Study Area and the Southern California Bight are not the thing being restored, and ecosystems in the Project Area are the thing.

Lines 17-19 The USACE states that the intent is to “restore ecological functions associated with high value habitat within the San Pedro Bay to support overall biodiversity and ecological health for marine populations within the Southern California Bight.” The stated reason for these two geographic limits is that the Project Areas is within the San Pedro Bay and the San Pedro Bay is within the SCB (Page xi, Line 25).

By the same logic, one could propose to restore ecological functions associated with high value habitat within the Pacific Ocean to support overall biodiversity and ecological health for marine populations within the World. On the face of it, this sentence seems ridiculous, but this is the exact reasoning and spatial rules that the USACE used in their boundaries. This could result in attempting to importing species that never existed in the Project Area from locations in the Mediterranean Sea. This ridiculous proposal could lead to importing invasive species, which is clearly not the intent. This simple exercise points out the irrationality of the USACE's argument.

## Appendix A

Page 1-1, Lines 8-18. It appears the only water quality analysis that was performed was within the EFDC model. It does not appear that improvements to water quality from increased aeration resulting from increased breaking waves associated with the breakwater alternatives were considered. Aeration is a good source of dissolved oxygen which is essential for aquatic life. Please include water aeration impacts to water quality in the Study.

Page 5-5, Line 3, Page 7-28, Line 1. Agreed that initial results of reef impacts to shoreline erosion are highly preliminary. Contrary to expectations, low crested reefs (MLLW and below) have caused erosion in their lee due to ponding of water in the lee of the reef lee and induced lateral currents. This has occurred in a test reef in Long Beach in the 1970's and is explained well in recent numerical models.

Page 5-8, Lines 11-13. See previous comment. Experience has shown that low crested reefs often lead to increased erosion in their lee. This would make a perched beach for eelgrass growth unlikely.

Page 5-13, Lines 17-19. As discussed on Page 8 of the 2016 Surfrider Letter another benefit of the training wall would be to protect downtown infrastructure from wave activity.

Page 6-5 & 6-6. Would the surface layer salinity and total suspended solids graphics show greater contrast between inner harbor and outside the Long Beach Breakwater if a later time was chosen for display? For example, "Peak Ebb" occurs close to hour 3.5 in Figure 6-10. Would greater contrast show if the model had more time to run with a graphic showing the lower tide slack tide near hour 4.5? This is important as it would validate the model to the aerial photographs showing high suspended sediment concentrations inside the breakwater and lower ones outside the breakwater after rainfall events (Google Earth 1/2005, 10/2012, 6/2016, 12/2017, and 3/2018).

Appendix A-1, Pages 30 – 35. Why aren't 2-D spatial plots showing salinity and total suspended solids shown for the scenarios like they are for the existing conditions in Figures 4.3 and 4.4? Beyond particle tracing graphs, the 2D spatial plots would be useful in determining effectiveness of breakwater modifications on tidal circulation and water clarity. They would also be useful to validate the obvious suspended particle flow through Queen's Gate shown in Google Earth aerial photos taken on 1/05, 10/12, 6/16, 12/17, and 3/18.

Appendix A-1, Figures 5.2 through 5.7. Since it acknowledged in the main report that the LA River and San Gabriel Rivers are the greatest sources of pollution in the ESPB, it seems like release locations D, E, and F are less helpful, and more variety of graphs showing release points near the river mouths would have been useful. While there is nothing wrong with release locations D, E, and F, if there is limited space in the report, more focus should be spent on the more important situations. The same goes for bottom layer flows, since highly polluted fresh water flows from the rivers stay mostly in the surface layer.

Appendix A-1, top of Figure 5.1 and Page 61 first paragraph and Figure 5.3 Surface Layer Wet Event. According to Figure 5.1, the tracer tracking analysis simulated rainfall flow through the Los Angeles River but had no rainfall input from the San Gabriel River. In Figure 5.3, the surface layer wet event simulation looks like there is flow through the San Gabriel River. Which is it? If there is not flow through the San Gabriel River, please re-run the model with more realistic flows from both rivers.

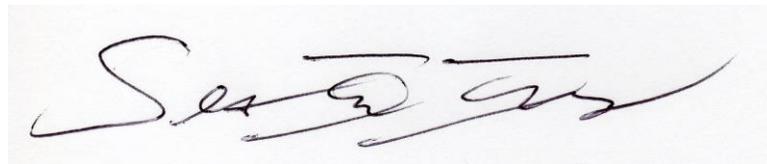
## Closing

We sincerely desire the USACE to change direction of the Study to more accurately adhere to USACE guidelines and CEQA/NEPA regulations that focus on ecosystem restoration. Specifically habitat examples from outside the Project Area should not be considered for import to the Project Area within the confines of the Study. We would like to see water circulation, tidal circulation, and water clarity returned to the project goals as well as inclusion of the possibility of mitigation, where needed. We would like to see wave driven sandy bottom habitat included in the habitat analysis and carried through the alternatives comparison.

Attached to this document is a hired expert opinion by Craig Jones, Ph.D., of Integral Consulting Incorporated. We concur with the statements provided in this document.

We look forward to working with the USACE and our local Study sponsor, the City of Long Beach, on this very exciting and promising project. Feel free to contact me any time to discuss this letter or any topic associated with the Study.

Sincerely,

A handwritten signature in black ink, appearing to read 'Seamus Ian Innes', is centered on a white rectangular background.

Seamus Ian Innes, M.Sc., P.E.  
Chairman  
Surfrider Foundation, Long Beach Chapter  
P.O. Box 14627, Long Beach, CA 90853  
E-mail: [chair@longbeach.surfrider.org](mailto:chair@longbeach.surfrider.org);  
web: [www.longbeach.surfrider.org](http://www.longbeach.surfrider.org)  
phone: 562-252-6173

Cc: Mayor Robert Garcia, City of Long Beach  
Tom Modica, Acting City Manager, City of Long Beach  
Sona Coffee, Chair, Sustainable City Commission, City of Long Beach  
Clayton Heard, Office of Congressman Alan Lowenthal, CA-47  
California Assemblymember Patrick O'Donnell  
Angela Howe, Legal Director, Surfrider Foundation  
Stefanie Sekich-Quinn, Coastal Preservation Manager, Surfrider Foundation  
Executive Committee, Surfrider Foundation, Long Beach Chapter  
Craig Jones, Integral Consulting Inc.

**Attachment:** East San Pedro Bay Ecosystem Restoration Study Draft IFR Review  
Comments from Craig Jones, Ph.D., Integral Consulting Inc