



# Los Peñasquitos Lagoon Foundation

P.O. Box 940, Cardiff by the Sea, CA 92007

November 8, 2013

Mary Shallenberger  
Commission Chair  
California Coastal Commission  
P.O. Box 354  
Clements, CA 95227-0354

RE: U.S. Army Corps of Engineers 50-Year Coastal Storm Damage Reduction and Beach Nourishment  
(Consistency Determination No. CD-0203-13)

Dear Ms. Shallenberger,

On behalf of the Los Peñasquitos Lagoon Foundation (LPLF), I would like to once again express deep concern over the 50-year Coastal Storm Damage Reduction and Beach Nourishment project (Project) proposed by the U.S. Army Corps of Engineers for the City of Solana Beach and City of Encinitas. Though the revised Project submitted to Coastal Commission has reduced the amount of sand to be placed along the beaches of Encinitas and Solana Beach, the proposed volumes under Alternatives EN-1B and SB-1B still pose a significant threat to the health of Los Peñasquitos Lagoon (LPL) and surrounding communities by cutting off tidal mixing due to increased sediment input into the Lagoon's ocean inlet and elevated beach profiles caused by the north-to-south movement of sand that occurs naturally within the Oceanside Littoral Cell. While the Project applicants have proposed additional monitoring at Torrey Pines State Beach to help identify impacts to LPL's inlet from the revised Project, the lack of an established protocol and adequate timeline to mitigate these impacts could have devastating impacts to the Lagoon's valuable resources and expose nearby communities and parks visitors to West Nile Virus and Equine Encephalitis from *Culex tarsalis*, a freshwater mosquito whose population increases exponentially during extended inlet closures due to perennial freshwater inputs from the Lagoon's urbanized watershed. For these reasons, LPLF strongly opposes the revised Project or any version of this project that does not provide a more adaptive approach beach nourishment (e.g. placing smaller volumes of sand on the receiving sites) and a realistic approach to mitigating impacts to Los Peñasquitos Lagoon (e.g. established mechanisms and timeline needed to avoid impacts to the Lagoon and public safety). For these reasons, LPLF argues that the

revised Project does not meet Federal Consistency and violates Sections 30230, 30231, and 30233 of the Coastal Act.

Recent beach nourishment efforts conducted in 2012 by SANDAG resulted in a massive amount of sand deposited within the inlet at LPL and along Torrey Pines State Beach. As a result, the Lagoon experienced multiple, extended inlet closures that greatly impacted salt marsh vegetation that include 26 sensitive plant species, resulted in deaths of aquatic species, severely degraded water quality, impaired nesting and foraging of listed bird species, and exposed nearby community and park visitors to mosquitos that can transmit West Nile Virus and Equine Encephalitis to human populations. The Army Corp's revised project currently under review by the Commission will still place volumes of sand in an order of magnitude greater than SANDAG efforts within the same general locations. LPLF feels that the proposed project is flawed on several fronts that include:

1. The project does not adequately mitigate for down-shore impacts to Los Peñasquitos Lagoon, located south of the project area, and is, therefore, in violation of Coastal Act Sections 30230, 30231, and 30233.
2. The Army Corps use of National Economic Development (NED) to justify the economic value of the revised Project is not comprehensive in assessing potential costs associated with project impacts.
3. The proposed monitoring and mitigation program is incomplete and not developed in a manner that would identify and offset impacts to Los Peñasquitos Lagoon and avoid significant threats to public safety from West Nile Virus and Equine Encephalitis.

Designated as a Marsh Natural Preserve and a Critical Coastal Area (CCA #77) by the State, Los Peñasquitos Lagoon (LPL) is afforded the highest level of protection, as it is one of few remaining salt marshes in the southern California. Currently listed as a 303-d Impaired Waterbody under the Clean Water Act due to sediment, Los Peñasquitos Lagoon contains Environmentally Sensitive Habitat Areas (ESHA) that support species endemic to salt marsh lagoons that include three listed birds (Light-Footed Clapper Rail, Western Snowy Plover and Belding's Savannah Sparrow) and 26 sensitive plant species. The Lagoon also serves as an important refuge for migratory birds following the Pacific Flyway and is the closest coastal lagoon to the only Areas of Special Biological Significance (ASBS) located within San Diego County (La Jolla State Marine Conservation Area and the San Diego-Scripps State Marine Conservation Area).

**The Project does not adequately mitigate down-shore impacts to coastal lagoons south of the project area and is, therefore, in violation of Coastal Act Sections 30230, 30231, and 30233.**

Termed the Oceanside Littoral Cell, sediment within the nearshore area in North County San Diego follows a southerly migration due to prevailing long-shore current and wave direction that pushes sand from Oceanside to the submarine canyons located south of Los Peñasquitos Lagoon. Based on this scientific fact, it is hard to understand why the Army Corps feasibility study concluded that sediment placed on the beaches of Encinitas and Solana Beach would remain within their proposed project area and not affect Los Peñasquitos Lagoon. While it was expressed within the report that the models indicated no impacts beyond the project area, the report also stated “inherent uncertainties associated with estimating impacts based on model predictions.” Clearly there is a large degree of uncertainty as to the overall impacts to Los Peñasquitos Lagoon and offshore areas.

The Project, as now proposed, would now place up to 1,270,000 cubic yards (cy) of sand on beaches between Encinitas and Solana Beach with additional 610,000 cy placed in subsequent years. Viewed within the context of previous beach nourishment under Regional Beach Sand Projects I & II that greatly impacted the inlet at LPL, the amount of sand proposed for beach nourishment under the revised Project is massive. The 1,270,000 cy of sand proposed for initial placement on beaches in Encinitas and Solana Beach represents an increase by two orders of magnitude of sand volume placed on north county beaches during annual maintenance activities (e.g. lagoon inlet maintenance) and an order of magnitude increase beyond the 321,000 cubic yards of sand placed by SANDAG in November 2012 within Army Corps’ proposed project area under Regional Beach Sand Project II (RBSP II). Several lines of evidence have linked beach nourishment efforts conducted by SANDAG (i.e. Regional Beach Sand Projects I & II) to increased sand deposition within the Los Peñasquitos Lagoon inlet and elevated beach profiles along Torrey Pines State Beach. The massive amount of sand within the Lagoon inlet associated with RBSP II required two separate efforts between May 2013 and June 2013 to mechanically remove ocean-borne sediments to restore connectivity with the ocean and allow impounded waters to drain. Estimated volume of sand removed from LPL during these two maintenance efforts was 40,000 cy and it is anticipated that a third maintenance effort may be needed before the Spring of 2014 since approximately 20,000 cy of sand still occlude the inlet area. This represents a 41% increase in the amount of sand removed annually from the Lagoon inlet between 2008-2012. Grain size analysis performed at the LPL inlet in May 2013 indicated a greater proportion of coarse to moderately coarse material within the Lagoon than in previous years, which matches the material type used by SANDAG for beach nourishment in November 2012 during RBSP II. Furthermore, beach elevations at Torrey Pines State Beach north of the LPL inlet were approximately 3-5 feet higher than in the previous 10 years. Elevated beach profiles reduce tidal mixing within lagoon channels since the Lagoon is cut

off from ocean waters for most of the tidal cycle. Furthermore, shoaling processes move sand off the beach and back into the lagoon inlet, further reducing and often negating tidal mixing within Los Peñasquitos Lagoon. Photos taken at Los Peñasquitos Lagoon in May 2013 and June 2013, as well as beach profile elevations using LIDAR are once again provided in Exhibit A (of the original comment letter submitted to the Coastal Commission in July 2013) to demonstrated elevated beach profiles (please note that the inlet had been excavated prior to the 5/24/2013 date in the LIDAR profile, but quickly closed again requiring a second maintenance effort in June 2013).

**The Army Corps use of National Economic Development (NED) to justify the economic value of the project is not comprehensive in assessing potential costs associated with project impacts.**

The applicants fail to comprehensively evaluate the actual costs associated with the revised Project by not internalizing costs associated with impacts to public health and safety, nor the increased costs associated with removing the additional sand from the inlet at Los Peñasquitos Lagoon. Army Corps use of the National Economic Development (NED) to justify the selected project alternative ignores costs associated with multiple efforts to excavate lagoon inlets and the value of human life, since it could result in human cases of brain encephalitis caused by the vector-borne West Nile Virus and Equine Encephalitis. Current costs associated with inlet maintenance at Los Peñasquitos Lagoon averages \$120,000 per effort. Funding for this effort is extremely hard to procure as it is often seen as a reoccurring maintenance effort by most, if not all, potential funding sources. Should the Army Corps project proceed as currently depicted, this cost could easily triple at the very least, given what has occurred as a result of SANDAG's beach nourishment efforts in 2012. This would place an undue economic burden on LPLF, California State Parks and the City of San Diego to maintain the inlet at LPL that range from \$360,000 to \$500,000 per year over the duration of 50 years. This would incur a cost of \$18,000,000 to \$25,000,000. Were these costs included in the determination of NED?

While the applicant is quick to point out potential costs to infrastructure and private property for any alternative besides EN-1A and SB-1A, which were discarded under the revised Project in favor of EN-1B and SB-1B, it fails to account for costs to infrastructure and private property due to prolonged inlet closures at LPL. Both the industrial parks located within Sorrento Valley, just east of LPL, and surrounding coastal communities would be highly vulnerable to flooding from impounded waters and storm runoff should the inlet close for an extended period of time due to the increased volume of sand within the LPL inlet from downshore movement of sand placed on the beaches of Solana Beach and Encinitas. Sorrento Valley contains many of the regions top

Biotechnology companies who compete worldwide in a highly competitive and time sensitive market and provide a substantial tax base for the City of San Diego. Were the costs associated with both temporary and permanent loss of business and damages to residential areas and businesses that border LPL included in the determination of NED?

When describing the viability of each project alternative, the Army Corps of Engineers fails to accurately assess the cost/benefit of “managed retreat” alternative or cite recent scientific literature that has examined beach nourishment needs and benefits along the California coast within the context of predicted sea level rise scenarios. Using Torrey Pines State Beach as a reference site for San Diego beaches, a recent study conducted by the California Department of Boating and Waterways in conjunction with San Francisco State University concluded that managed retreat would be the best alternative, since benefits associated large beach nourishment efforts would be ephemeral at best while remaining financially burdensome and result in impacts to valuable habitats (Phillip King *et al.* 2011, revised in 2013. *The Economic Costs of Sea-Level Rise to California Beach Communities*). Have the applicants considered these findings or other relevant scientific literature?

LPL is currently a known location of mosquito breeding habitat in San Diego County for *Culex tarsalis*, the species known to transmit West Nile Virus (WNV) and Equine Encephalitis in southern California. *C. tarsalis* is a freshwater mosquito that currently breeds in LPL due to the presence of perennial freshwater inputs from the urbanized watershed. Documented cases of WNV have occurred in both wild and sentinel avian populations, as well as within human populations located near the Lagoon. Open space, urban, and commercial areas that contain sensitive receptors (elderly and young children) surround the Lagoon, presenting a higher risk of complications associated with West Nile Virus infection in human populations. The County of San Diego’s Department of Environmental Health has attempted to control populations and breeding habitat of *C. tarsalis* within the Lagoon through methods that include aerial spraying of larvicide over 70 acres in 2011. However, these efforts have not proved successful in reducing overall populations of mosquitos. During prolonged inlet closures, populations of *C. tarsalis* can rapidly increase to the point that local residents cannot leave their houses in the morning and early evening hours. WNV and Equine Encephalitis can lead to brain encephalitis in humans that can leave permanent neurological damage and, in some cases, result in fatalities. In 2010 the Environmental Protection Agency placed the value of human life at \$9.1 million per individual. Was this cost included in the determination of NED?

**The proposed monitoring and mitigation program is incomplete and not developed in a manner that would identify and offset impacts to Los Peñasquitos Lagoon and avoid significant threats to public safety from West Nile Virus and Equine Encephalitis.**

While the Project applicant has proposed additional monitoring transects at the inlet of LPL, it fails to provide a detailed, or even conceptual, approach nor mechanisms to determine project impacts and mitigate them in a timely manner needed to protect the resources of LPL and protect the public from West Nile Virus and Equine Brain Encephalitis. Prolonged inlet closures at LPL can be devastating to both aquatic and terrestrial flora and fauna as dissolved oxygen and salinity levels can drop precipitously within a couple weeks. Furthermore, populations of *Culex tarsalis* can explode exponentially due to impounded freshwater within the Lagoon, as recently occurred during the last prolonged inlet closure which could have exposed both local residents and park visitors to West Nile Virus and Equine Encephalitis. Based on this, LPLF is deeply concerned should the Project receive Federal Consistency due to the lack of a protocol and timeline for mitigating impacts to the inlet at LPL (i.e. mechanically excavating the inlet) and establishing funding and mechanisms to release the funding in a timely manner to avoid impacts to LPL and threats to public health and safety. These concerns are just given the fact that the Project's monitoring program described for assessing shoreline impacts would require a 2 year period before determining Project impacts. The approximately 2-month closure at LPL in the Spring of 2013 due in part to elevated sand volumes caused by RSBP II was devastating to both aquatic and terrestrial species endemic to LPL. Aside from nuisance smells and increased vector populations that impacted local businesses and residents, the prolonged closure resulted in massive fish kills, loss of recruitment of the endangered Belding's savannah sparrow due to flooding of nesting habitat, and impacts to native salt marsh vegetation due to leaching of salt from lagoon soils. Populations of *Culex tarsalis* increased exponentially during this 2-month closure to the point that local residents, businesses and park visitors were impacted (as evidenced by the situation being highlighted in local news). Fortunately, both West Nile Virus and Equine Encephalitis were not detected in the Lagoon and the inlet was successfully opened before conditions became more conducive to the presence and spread of these viruses. Based on this, one can only imagine the devastation to Lagoon resources and risk to public health/safety should the inlet remained closed for 2 years due to lack of funding needed to removed 2 to 3 times that volume of sand that normally occludes the inlet at LPL.

Based on these points, LPLF requests that the Coastal Commission add, at the very least, the following additional conditions to the Project for Federal Consistency Determination No. CD-0203-13:

1. Project applicants (Army Corps, City of Encinitas and City of Solana Beach) will work with LPLF, California State Parks and Coastal Commission staff to establish and implement a monitoring and mitigation program at Los Peñasquitos Lagoon and Torrey Pines State Beach prior to any beach nourishment activities.
2. Mitigation funding will be set aside to pay for inlet maintenance at Los Peñasquitos Lagoon and made available as needed, since inlet closures beyond 2 weeks can be catastrophic for Lagoon resources and expose local residents and park visitors to West Nile Virus and Equine Encephalitis.
  - a. Funding will be provided to LPLF for inlet maintenance efforts that include heavy equipment with operators, elevation surveys, permit compliance and reporting.
  - b. Funding will be provided to LPLF to maintain inlet maintenance permits through the duration of the 50-year project.
  - c. Funding will be set aside prior to beach nourishment activities to guarantee its availability.

Since its creation in 1983, the LPLF has worked closely with the Coastal Commission and other resource agencies to protect and preserve this valuable coastal resource. The Foundation implores the Coastal Commission to continue its dedication to protect Los Peñasquitos Lagoon and work with LPLF and the Army Corps to assure that beach nourishment efforts do not impact this State Marsh Preserve and Critical Coastal Area. Please contact me directly for more information and future coordination - (760) 271-0574 or by email at: [mikehastings1066@gmail.com](mailto:mikehastings1066@gmail.com). I have included our previous letter for consideration, including photos in Exhibit A since both are still relevant to the Project and its potential impacts to Los Peñasquitos Lagoon and the public.

Regards,



Mike Hastings, Executive Director

Los Peñasquitos Lagoon Foundation

Cc:

Sherri Lightner, Councilmember for District One, City of San Diego

Dave Roberts, Supervisor for District 3, County of San Diego

Clay Phillips, San Diego Coast District Superintendent, California State Parks

Lee McEachern, San Diego District, Coastal Commission



# Los Peñasquitos Lagoon Foundation

P.O. Box 940, Cardiff by the Sea, CA 92007

July 8, 2013

Mary Shallenberger  
Commission Chair  
California Coastal Commission  
P.O. Box 354  
Clements, CA 95227-0354

RE: U.S. Army Corps of Engineers 50-Year Coastal Storm Damage Reduction and Beach Nourishment  
(Consistency Determination No. CD-003-13)

Dear Ms. Shallenberger,

On behalf of the Los Peñasquitos Lagoon Foundation (LPLF), I would like to express deep concern over the 50-year Coastal Storm Damage Reduction and Beach Nourishment project proposed by the U.S. Army Corps of Engineers for the City of Solana Beach and City of Encinitas. The project poses a significant threat to the health of Los Peñasquitos Lagoon (LPL) by cutting off tidal mixing due to increased sediment input into the Lagoon's ocean inlet and elevated beach profiles caused by the north-to-south movement of sand that occurs naturally within the Oceanside Littoral Cell. Recent beach nourishment efforts conducted in 2012 by SANDAG resulted in a massive amount of sand deposited within the inlet at LPL and along Torrey Pines State Beach. As a result, the Lagoon experienced multiple, extended inlet closures that greatly impacted salt marsh vegetation that include 26 sensitive plant species, resulted in deaths of aquatic species, severely degraded water quality, impaired nesting and foraging of listed bird species, and exposed nearby community and park visitors to mosquitos that can transmit West Nile Virus and Equine Encephalitis to human populations. The Army Corp's project currently under review by the Commission will place volumes of sand in an order of magnitude greater than SANDAG efforts within the same locations. LPLF feels that the proposed project is flawed on several fronts that include:

1. The project ignores down-shore impacts to coastal lagoons south of the project area.
2. The Army Corps use of National Economic Development (NED) to justify the economic value of the project is not comprehensive in assessing potential costs associated with project impacts.

3. The proposed monitoring and mitigation program is incomplete and not developed in a manner that would identify and offset impacts to Los Peñasquitos Lagoon.

Designated as a Marsh Natural Preserve and a Critical Coastal Area (CCA #77) by the State, Los Peñasquitos Lagoon (LPL) is afforded the highest level of protection, as it is one of few remaining salt marshes in the southern California. Currently listed as a 303-d Impaired Waterbody under the Clean Water Act due to sediment, Los Peñasquitos Lagoon contains Environmentally Sensitive Habitat Areas (ESHA) that support species endemic to salt marsh lagoons that include three listed birds (Light-Footed Clapper Rail, Western Snowy Plover and Beldings Savannah Sparrow) and 26 sensitive plant species. The Lagoon also serves as an important refuge for migratory birds following the Pacific Flyway and is the closest coastal lagoon to the only Areas of Special Biological Significance (ASBS) located within San Diego County (La Jolla State Marine Conservation Area and the San Diego-Scripps State Marine Conservation Area).

### **The Project Ignores Down-Shore Impacts To Coastal Lagoons South Of The Project Area.**

Termed the Oceanside Littoral Cell, sediment within the nearshore area in North County San Diego follows a southerly migration due to prevailing long-shore current and wave direction that pushes sand from Oceanside to the submarine canyons located south of Los Peñasquitos Lagoon. Based on this scientific fact, it is hard to understand why the Army Corps feasibility study concluded that sediment placed on the beaches of Encinitas and Solana Beach would remain within their proposed project area and not affect Los Peñasquitos Lagoon. While it was expressed within the report that the models indicated no impacts beyond the project area, the report also stated “inherent uncertainties associated with estimating impacts based on model predictions.” Clearly there is a large degree of uncertainty as to the overall impacts to Los Peñasquitos Lagoon, which is not listed as one of the coastal lagoons to be monitored under the proposed project.

The project, as proposed, would place up to 1,640,000 cubic yards (cy) of sand on beaches between Encinitas and Solana Beach with additional sand (between 280,000 cy to 420,000 cy) placed in subsequent years. This represents an increase by two orders of magnitude of sand volume placed on north county beaches during annual maintenance activities (e.g. lagoon inlet maintenance) and an order of magnitude increase beyond the 321,000 cubic yards of sand placed by SANDAG in November 2012 within Army Corps’ proposed project area. Several lines of evidence have linked beach nourishment efforts conducted by SANDAG to increased sand deposition within the Los Peñasquitos Lagoon inlet and elevated beach profiles along Torrey Pines State Beach. The

massive amount of sand within the Lagoon inlet required two separate efforts between May 2013 and June 2013 to mechanically remove ocean-borne sediments to restore connectivity with the ocean and allow impounded waters to drain. Estimated volume of sand removed from LPL during these two maintenance efforts was 40,000 cy and it is anticipated that a third maintenance effort will be needed before the Fall of 2013 since approximately 20,000 cy of sand still occlude the inlet area. This represents a 41% increase in the amount of sand removed annually from the Lagoon inlet between 2008-2012. Grain size analysis performed at the LPL inlet in May 2013 indicated a greater proportion of coarse to moderately coarse material within the Lagoon than in previous years, which matches the material type used by SANDAG for beach nourishment in November 2012. Furthermore, beach elevations at Torrey Pines State Beach north of the LPL inlet were approximately 3-5 feet higher than in the previous 10 years. Elevated beach profiles reduce tidal mixing within lagoon channels since the Lagoon is cut off from ocean waters for most of the tidal cycle. Furthermore, shoaling processes move sand off the beach and back into the lagoon inlet, further reducing and often negating tidal mixing within Los Peñasquitos Lagoon. Photos taken at Los Peñasquitos Lagoon in May 2013 and June 2013, as well as beach profile elevations using LIDAR are provided in Exhibit A to demonstrated elevated beach profiles (please note that the inlet had been excavated prior to the 5/24/2013 date in the LIDAR profile, but quickly closed again requiring a second maintenance effort in June 2013).

**The Army Corps use of National Economic Development (NED) to justify the economic value of the project is not comprehensive in assessing potential costs associated with project impacts.**

The Army Corps use of the National Economic Development (NED) to justify the selected project alternative ignores costs associated with multiple efforts to excavate lagoon inlets and the value of human life, since it could result in human cases of brain encephalitis caused by the vector-borne West Nile Virus and Equine Encephalitis. Current costs associated with inlet maintenance at Los Peñasquitos Lagoon averages \$120,000 per effort. Funding for this effort is extremely hard to procure as it is often seen as a reoccurring maintenance effort by most, if not all, potential funding sources. Should the Army Corps project proceed as currently depicted, this cost could easily triple at the very least, given what has occurred as a result of SANDAG's beach nourishment efforts in 2012. This would place an undue economic burden on LPLF and California State Parks to maintain the inlet at LPL that range from \$360,000 to \$500,000 per year over the duration of 50 years. This would incur a cost of \$18,000,000 to \$25,000,000. Were these costs included in the determination of NED?

LPL is currently a known location of mosquito breeding habitat in San Diego County for *Culex tarsalis*, the species known to transmit West Nile Virus (WNV) and Equine Encephalitis in southern California. *C. tarsalis* is a freshwater mosquito that currently breeds in LPL due to the presence of perennial freshwater inputs from the urbanized watershed. Documented cases of WNV have occurred in both wild and sentinel avian populations, as well as within human populations located near the Lagoon. Open space, urban, and commercial areas that contain sensitive receptors (elderly and young children) surround the Lagoon, presenting a higher risk of complications associated with West Nile Virus infection in human populations. The County of San Diego's Department of Environmental Health has attempted to control populations and breeding habitat of *C. tarsalis* within the Lagoon through methods that include aerial spraying of larvicide over 70 acres in 2011. However, these efforts have not proved successful in reducing overall populations of mosquitos. During prolonged inlet closures, populations of *C. tarsalis* can rapidly increase to the point that local residents cannot leave their houses in the morning and early evening hours. WNV and Equine Encephalitis can lead to brain encephalitis in humans that can leave permanent neurological damage and, in some cases, result in fatalities. In 2010 the Environmental Protection Agency placed the value of human life at \$9.1 million per individual. Was this cost included in the determination of NED?

**The proposed monitoring and mitigation program is incomplete and not developed in a manner that would identify and offset impacts to Los Peñasquitos Lagoon.**

LPLF urges the Coastal Commission to augment the conditions proposed for monitoring and mitigation for the project to meet Federal Consistency requirements since the current conditions suggested by the Commission will not protect Los Peñasquitos Lagoon (LPL) and the public. Given the assumption that no impacts will occur outside of the project area, Army Corps fails to identify potential impacts to the LPL or establish a method to mitigate these impacts. Furthermore, monitoring data collected by SANDAG under their Regional Beach Sand Project II (RBSP II) is insufficient in assessing potential impacts to LPL since established survey transects at Torrey Pines State Beach for RBSP II are located south of the Lagoon inlet and will not provide useful data in assessing the project's potential impacts with regard to shoaling at the inlet and deposition within LPL. Based on these points, LPLF requests that the Coastal Commission add, at the very least, the following additional conditions to the project for Consistency Determination No. CD-003-13:

1. Army Corps will work with LPLF and California State Parks to establish and implement a monitoring program at Los Peñasquitos Lagoon and Torrey Pines State Beach to characterize baseline conditions

and identify potential impacts to the Lagoon inlet from beach nourishment efforts conducted in Solana Beach and Encinitas.

- a. Funding for the monitoring program will be provided by Army Corps and conducted in coordination with LPLF and the Scripps Institute of Oceanography.
  - b. Monitoring will be conducted on a monthly basis and following events of large surf and/or storm surges.
2. Mitigation funding will be set aside to pay for inlet maintenance at Los Peñasquitos Lagoon and made available as needed, since inlet closures beyond 2 weeks can be catastrophic for Lagoon resources and expose local residents and park visitors to West Nile Virus and Equine Encephalitis.
- a. Funding will be provided to LPLF for inlet maintenance efforts that include heavy equipment with operators, elevation surveys, permit compliance and reporting.
  - b. Funding will be provided to LPLF to maintain inlet maintenance permits through the duration of the 50-year project.
  - c. Funding will be set aside prior to beach nourishment activities to guarantee its availability.

Since its creation in 1983, the LPLF has worked closely with the Coastal Commission and other resource agencies to protect and preserve this valuable coastal resource. The Foundation implores the Coastal Commission to continue its dedication to protect Los Peñasquitos Lagoon and work with LPLF and the Army Corps to assure that beach nourishment efforts do not impact this State Marsh Preserve and Critical Coastal Area. Please contact me directly for more information and future coordination - (760) 271-0574 or by email at: [mikehastings1066@gmail.com](mailto:mikehastings1066@gmail.com).

Regards,



Mike Hastings, Executive Director

Los Peñasquitos Lagoon Foundation

Exhibit A  
Photos of Elevated Beach Profiles at Los Peñasquitos Lagoon Inlet  
Beach Elevation Data at Torrey Pines State Beach - LIDAR



Figure 1. View of Beach Profile, Northern Edge of Los Peñasquitos Lagoon Inlet. May 14, 2013.



Figure 2. View of Beach Profile, Northern Edge of Los Peñasquitos Lagoon Inlet. May 14, 2013.

Exhibit A  
Photos of Elevated Beach Profiles at Los Peñasquitos Lagoon Inlet  
Beach Elevation Data at Torrey Pines State Beach - LIDAR



Figure 3. View of Beach Profile, Northern Edge of Los Peñasquitos Lagoon Inlet. May 15, 2013



Figure 4. View of Beach Profile, Southern Edge of Los Peñasquitos Lagoon Inlet. June 12, 2013.  
Approximately 3-6 feet of additional sand above the lagoon inlet waterline.

Exhibit A  
Photos of Elevated Beach Profiles at Los Peñasquitos Lagoon Inlet  
Beach Elevation Data at Torrey Pines State Beach - LIDAR



Figure 5. View of Beach Profile, Northern Edge of Los Peñasquitos Lagoon Inlet. June 17, 2013.  
The inlet area had already been excavated multiple times prior to this photo.

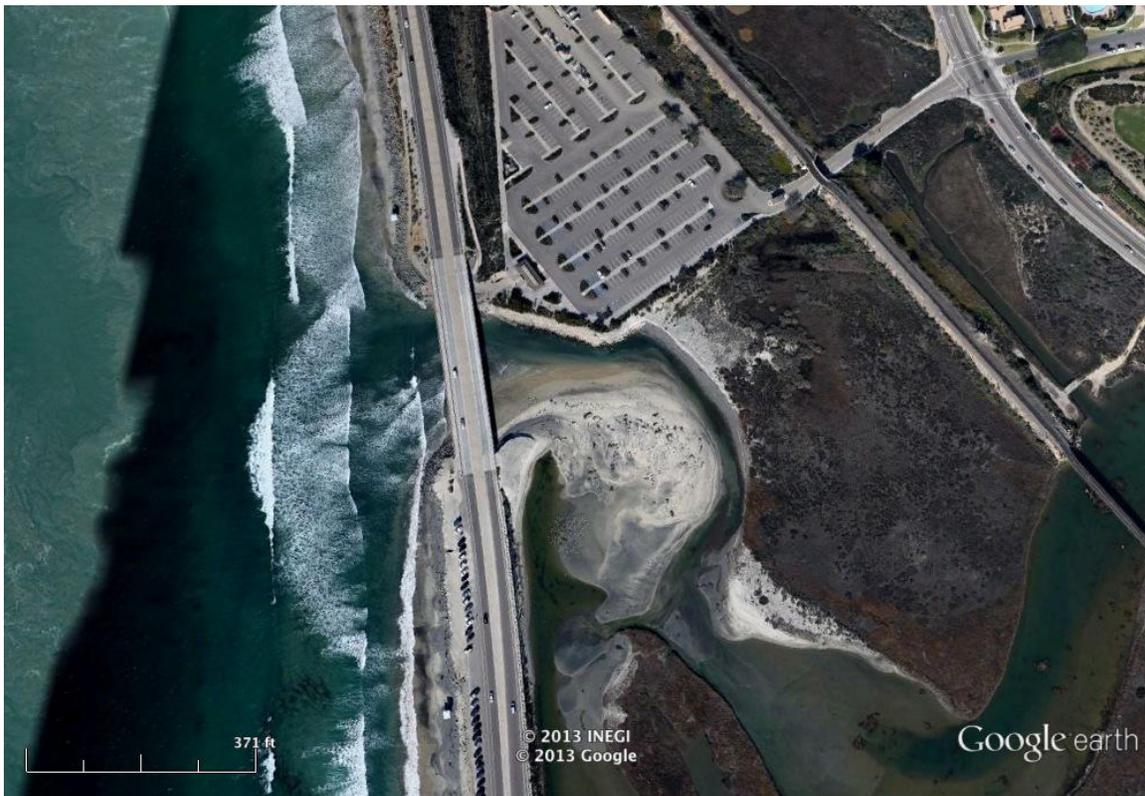


Figure 6. Overview of Los Peñasquitos Lagoon Inlet. November 12, 2012. Note the large, exposed sand spit within the Lagoon that occludes the inlet and restricts tidal mixing.



### Beach Elevations

NAVD88 meters

