

DOCKETED

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Memorandum

To: Elizabeth Lambe, Los Cerritos Wetlands Land Trust **From:** Eric Zahn, Tidal Influence, LLC

Cc: Keith Simmons, Los Cerritos Wetlands Land Trust; Joe Geever; Michelle Black, Chatten-Brown and Carstens

Date: August 10th, 2016

Subject: Review of the Alamitos Energy Center Preliminary Staff Assessment

We submit this communication on behalf of the Los Cerritos Wetlands Land Trust (LCWLT). LCWLT has spent more than a decade educating and advocating for the protection and restoration of Los Cerritos Wetlands (LCW). Accordingly, the LCWLT has been extremely involved with environmental review processes for projects proposed in and near the wetlands. We appreciate the opportunity to comment on the California Energy Commission Preliminary Staff Assessment for the proposed Alamitos Energy Center.

The objective of this memo is to present an analysis of the Alamitos Energy Center's preliminary staff assessment that was released on July 13th, 2016. This analysis is from the perspective of conserving and protecting the biological resources of the Los Cerritos Wetlands and Environs. The various habitats that compose the Los Cerritos Wetlands are consistently faced with urban edge effects and the anticipated impacts generated by proposed developments in the immediate area must be first eliminated or reduced and if that is not possible then they must be mitigated. As the staff assessment clearly describes, Los Cerritos Wetlands provide habitat for numerous state and federally listed species of plants and animals. The protection of these species is paramount, however, healthy ecosystem functioning depends on the viability of all biota. Therefore, a community perspective for conservation is just as critical as the species specific approach

When undertaking such a complex and controversial planning effort there are sure to be a number of issues that are inadequately or inaccurately presented. The purpose of this communication is not to bring into question the capabilities or qualifications of the professionals who have drafted this plan, but instead the purpose is to provide expertise on a number of issues that the Land Trust feels are important and must be properly addressed by this project. The following analysis was performed based on the project alternative that was presented and does not consider any other potential alternatives.

For this memorandum Tidal influence staff reviewed all information pertaining to biological resources. We have organized this communication into 3 sections that we feel capture all of the concerns that arose during this analysis. Our recommendations are *italicized and underlined*.

1. **Impacts to on-site biological resources**

The staff assessment does a reasonable job of listing the biological resources that have potential to occur on the project site. *We have identified 2 animal species that we recommend be added to Biological Resources Table 2: Special-status Species in the AEC Area and Vicinity*

- a. Southern California legless lizard (*Anniella stebbinsi*) – This reptile is a CDFW species of special concern and the project site is within this species' range. According to CDFW "This lizard usually forages at the base of shrubs or other vegetation either on the surface or just below

it in leaf litter or sandy soil...sometimes seek cover under surface objects such as flat boards and rocks where they lie barely covered in loose soil. They are often encountered buried in leaf litter and commonly burrow near the surface through loose soil...moisture is an essential habitat requirement...Found primarily in areas with sandy or loose organic soils or where there is plenty of leaf litter.”

- b. Pacific seahorse (*Hippocampus ingens*) – This fish is listed as “vulnerable” on the International Union for the Conservation of Nature's (IUCN) Red List of Threatened Species. A population has recently been identified in Alamitos Bay and therefore there is potential for it to occur in the forebays and San Gabriel River that are directly adjacent to the project site.

Furthermore, we disagree with the assumption that the Burrowing owl (*Athene cunicularia*) has a “low” potential for occurrence in the project area. This bird species has been observed less than 5,000 feet from the project site utilizing drainage pipes and ground squirrel burrows for cover. This species also has been documented nesting in degraded areas on the Seal Beach Wildlife Refuge. There is moderate potential for burrowing owls to currently inhabit the project site where the former tank farm once existed. Even if this bird species does not inhabit the project site, similar to the snowy plover, the burrowing owl could fly over the project site as it travels throughout the area. We recommend that a burrowing owl survey be performed before any construction activities commence and that the biological monitors be charged with monitoring for the presence of this species throughout the 57 month project period.

Additionally, if staff believes that the white-tailed kite (*Elanus leucurus*) has a “moderate” potential to occur, then we recommend that the short-eared owl (*Asio flammeus*), northern harrier (*Circus cyaneus*), and loggerhead shrike (*Lanius ludovicianus*) all should be listed as “moderate” as well. Through the analysis of historic aerial photos it appears that the site becomes vegetated each year in the spring and puddling also occurs. Also, the adjacent former tank farm site has become progressively more vegetated since the tanks were demolished in 2010, which undoubtedly has attracted more wildlife to the immediate vicinity. The staff assessment references the annual existence of ruderal vegetation on page 4.3-8 and further mentions its existence on page 4.3-24 where the presence of “temporary puddles” is also mentioned. Regardless of the “temporary” status of the vegetation and puddling, there is potential that they both could temporally attract prey for the short-eared owl, northern harrier and loggerhead shrike and that the project site may occasionally be visited by these species during these temporary periods when the site is vegetated or flooded. In Exhibit A we present a series of historic aerial photos that demonstrate the site was recently cleared of vegetation sometime between March 2015 and February 2016. Several shrubs and extensive vegetation can be seen growing over the years and then disappearing. Since the project is in the coastal zone this type of vegetation management would require a coastal development permit. Otherwise, this work could be considered as an unpermitted modification of the project site done to influence this staff assessment.

Lastly, the project site is flanked by forebays that act as water intake channels for the current AGS cooling system. There is potential for Pacific green sea turtles and marine mammals to enter these forebays, therefore we recommend that a biological monitor be required to perform sea turtle and marine mammal surveys before construction commences each day.

Southern Tarplant

We agree that the project should include a southern tarplant survey and also agree that if southern tarplant is impacted that a Southern Tarplant Reintroduction Plan be created. However, we find the “10 percent or more of the plants or occupied habitat within the 0.25 mile survey area” to be an arbitrary value. We recommend that all impacted southern tarplant individuals be replaced at a 1:1 ratio. We

also insist that since this is an annual plant species that the tarplant survey is required to occur during the plant's flowering stage which generally occurs between May and November.

2. Impacts to off-site biological resources

Construction Timeline

The project construction schedule anticipates that construction activities will last approximately 57 months starting in early 2017 and ending near the end of 2021. This expansive timeline for construction makes it challenging to accurately predict impacts to the biological resources of Los Cerritos Wetlands. It is possible that during that time period a variety of previously undocumented wildlife would become established throughout Los Cerritos Wetlands. Similarly it is possible for currently existing wildlife to change their behaviors during that time and initiate previously undocumented breeding activities. This project has potential to deter these ecological processes from happening. This is especially true since several large restoration projects are planned to occur during the proposed timeframe for the AEC project construction and two smaller restoration projects are already being implemented within the Los Cerritos Wetlands Complex.

We recommend that light, noise, dust, and non-native plant monitoring stations are implemented at the Zedler Marsh restoration site and the Los Alamitos Pump Station restoration site at least 45 days before construction commences and that these constituents are monitored throughout the entire construction period to assure that these fragile restoration projects are not impacted. We further recommend that monitoring stations are implemented at any new restoration project site that may be initiated during the project construction timeline.

Special Status Species

Pacific green sea turtle – There is limited data on the population of sea turtles that are found in the San Gabriel River. The staff assessment states that “the slow transition period for eliminating warm water outfall from the existing AGS plant is expected to allow sea turtles to gradually adapt to changing temperature regime by adjusting their local activities.” The use of the word “expected” makes this statement appear to be an assumption. While the population in San Diego Bay has been extensively studied in order to learn about how the decommissioning of the South Bay Power Plant impacted their sea turtle population trends, it is important to recognize that San Diego Bay and the San Gabriel River (SGR) are very different water bodies, located at different latitudes, and offer remarkably different habitat types. In order to be certain of how the SGR population is going to change, it is necessary for a monitoring program to be established. We recommend that a sea turtle monitoring program be included in the project's Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) so that scientific data will be available to understand how the cumulative impacts of this project impact the existing SGR sea turtle population. This monitoring program should be implemented at least 45 days before construction begins and last until at least one year past when the discharge of warm water effluent has ceased.

Belding's savannah sparrow – There is limited data on the population of Belding's savannah sparrows (BSS) that exist within the Los Cerritos Wetlands. The only official surveys that have occurred were performed at five year intervals and those surveys have had limited access to the entirety of potential BSS breeding habitat. Furthermore, this population has seen a marked increase over the past 30 years, growing from just 4 nesting pairs in 1996 to 86 nesting pairs in 2015 (Zemba et al., 2015). The staff assessment assumes that “project related noise are not expected to mask bird vocalizations.” In order to be certain that this project will not impact the communication of BSS during the 4 breeding seasons this project's construction period proposes encompasses, it is necessary for a monitoring program to be implemented. We recommend that a BSS monitoring program be included in the project's Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) so that scientific data will be

available to understand how the noise impacts of this project's construction, demolition and operation impact the existing BSS population. This monitoring program should be implemented at least 45 days before construction begins and last until at least one breeding season post demolition.

Air Emissions – Nitrogen Deposition

The staff assessment provides a thorough scientific analysis of the potential impacts from nitrogen deposition on local habitat. We agree that coastal salt marsh are naturally high in nitrogen, however, other sensitive wetlands habitat types exist throughout Los Cerritos Wetlands including alkali meadows, brackish marsh, mulefat scrub, and willow scrub (Tidal Influence, 2012). Belding's savannah sparrow and Ridgeway Rails have been documented utilizing these habit types in southern California, as well as numerous other special status species. Therefore the potential impacts from nitrogen deposition should be analyzed for these habitats types as well. Since no alternatives have been presented to having these power plants re-developed at this location, we recommend that this project include an endowment for non-native weed management for the Los Cerritos Wetlands. There is precedence for this at the Huntington Beach Wetlands and this endowment should be structured in similar fashion to the agreement between AES and the Huntington Beach Wetlands Conservancy.

3. Miscellaneous Inadequacies and Inaccuracies

We documented several general inadequacies or inaccuracies that we recommend for review and revision:

- Executive Summary Table 2 lists the projects expected to take place in the vicinity. Project number 2 should be split into two distinct projects. The Synergy mitigation bank and oil consolidation project is a separate project from the Los Cerritos Wetlands Authority's Conceptual Restoration Plan. One project is being implemented by a private land owner and the other is being implemented by a public entity at a different location.
- The marine mammal protection act should be included in the list of LORS based on the potential presence of marine mammals in the forebays, Los Cerritos Channel, and San Gabriel River
- Descriptions of Colorado Lagoon and Sims' Pond Biological Reserve should be included in the "Regional Wetlands and Other Protected Areas" section.
- Descriptions of alkali meadows and brackish marsh should be added to the "Existing Vegetation and Wildlife" section.
- On Page 4.3-33 the document states that "Once the existing AGS generating units are retired (expected by the end of 2010)..." The year 2010 certainly is not accurate since the AGS units are currently still operating.

Summary of Recommendations

1. We have identified 2 animal species that we recommend be added to Biological Resources Table 2: Special-status Species in the AEC Area and Vicinity.
2. We recommend that a burrowing owl survey be performed before any construction activities commence and that the biological monitors be charged with monitoring for the presence of this species throughout the 57 month project period.
3. We recommend that the short-eared owl (*Asio flammeus*), northern harrier (*Circus cyaneus*), and loggerhead shrike (*Lanius ludovicianus*) all should be listed as "moderate" as well.
4. We recommend that all impacted southern tarplant individuals be replaced at a 1:1 ratio. We also insist that since this is an annual plant species that the tarplant survey is required to occur during the plant's flowering stage which generally occurs between May and November.
5. We recommend that light, noise, dust, and non-native plant monitoring stations are implemented at the Zedler Marsh restoration site and the Los Alamitos Pump Station restoration site at least 45 days before

construction commences and that these constituents are monitored throughout the entire construction period to assure that these fragile restoration projects are not impacted. We further recommend that monitoring stations are implemented at any new restoration project site that may be initiated during the project construction timeline.

6. We recommend that a sea turtle monitoring program be included in the project's Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) so that scientific data will be available to understand how the cumulative impacts of this project impact the existing SGR sea turtle population. This monitoring program should be implemented at least 45 days before construction begins and last until at least one year past when the discharge of warm water effluent has ceased.
7. We recommend that a BSS monitoring program be included in the project's Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) so that scientific data will be available to understand how the noise impacts of this project's construction, demolition and operation impact the existing BSS population. This monitoring program should be implemented at least 45 days before construction begins and last until at least one breeding season post demolition.
8. We recommend that this project include an endowment for non-native weed management for the Los Cerritos Wetlands.

References

Tidal Influence, Inc. 2012. Los Cerritos Wetlands Habitat Assessment Report: Habitat Types & Special Status Species. Prepared for the Los Cerritos Wetlands Authority and Moffatt & Nichol. Rev. Aug. 31.

Zemba, Richard, Susan Hoffman and Robert Patton. A Survey of the Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*) in California, 2015.

Exhibit A

Aerial Photo Series

February 2016



Pudding

Google earth

Imagery Date: 2/2/2016 33°45'59.95" N 118°06'03.53" W elev 18 ft eye alt 1288 ft

Tour Guide 1994

March 2015



3/2015

Shrub

Pudding

Google earth

Tour Guide 1994

Imagery Date: 3/24/2015 33°45'59.95" N 118°06'03.53" W elev 18 ft eye alt 1288 ft

April 2014



← Shrub

Google earth

April 2013



4/2013

← Shrub →

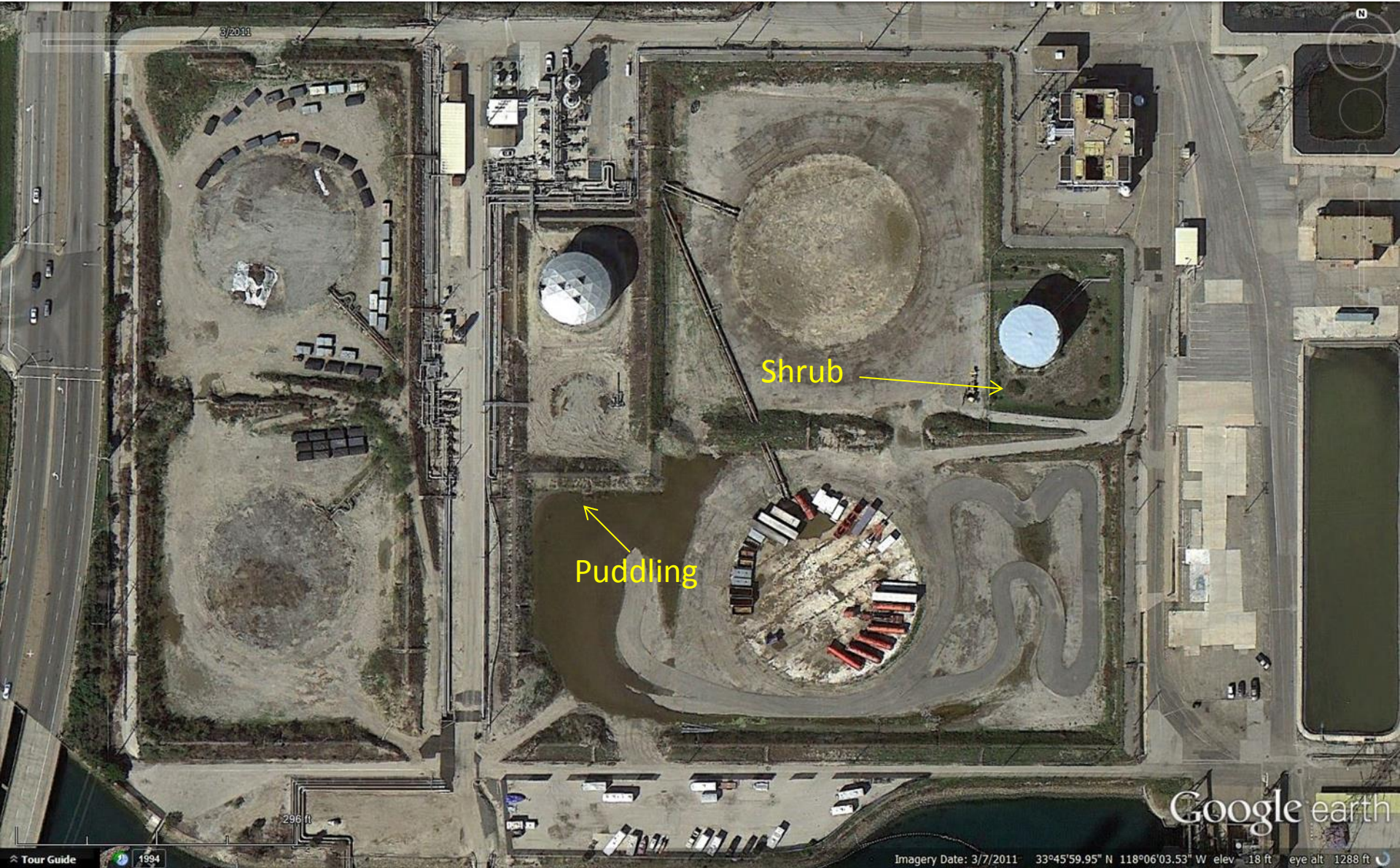
296 ft

Google earth

Tour Guide 1994

Imagery Date: 4/16/2013 33°45'59.95" N 118°06'03.53" W elev 18 ft eye alt 1288 ft

March 2011



Shrub

Pudding

Google earth

Imagery Date: 3/7/2011 33°45'59.95" N 118°06'03.53" W elev 18 ft eye alt 1288 ft

Tour Guide 1994

November 2009



11/2009

Shrub

Google earth

Tour Guide 4994

Imagery Date: 11/14/2009 33°45'59.95" N 118°06'03.53" W elev 18 ft eye alt 1288 ft

Eric Forest Zahn, M.S.

Principal Restoration Ecologist



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Long Beach, CA 90802
858-353-6113 (Cell)
eric@tidalinfluence.com

Education:

August 2003 – August 2006

Master of Science in Biology

California State University, Long Beach

Emphasis: Salt Marsh Plant Ecology

Advisor: Dr. Antonia Wijte, Assistant Professor, Wetlands Plant Biology

GPA: 4.0

September 1999 - September 2002

Bachelor of Science in Ecology, Behavior, and Evolution

University of California, San Diego

GPA: 3.4

Professional Employment/Titles:

August 2008 - Present

Principal, Co-Founder, and Restoration Ecologist

Tidal Influence LLC, Long Beach, CA

Duties: Involved in all aspects of developing and organizing this consulting firm focused on bringing sustainability to the coastal region of southern California. Work directly with clients who include LCWA, City of Long Beach, LCW Land Trust, City of Long Beach, Friends of Colorado Lagoon and USFWS.

June 2008 – December 2014

Restoration Director

Friends of Colorado Lagoon, Long Beach, CA

Duties: Apply for grants for project funding, write permits, design work plans and implement community-based restoration with service-learning component. Organize and implement public outreach and education programs. Design plant palette and perform necessary post-restoration maintenance and monitoring. Work closely with landowners (City of Long Beach) to implement small-scale restoration efforts, while advising Friends of Colorado Lagoon on the large-scale restoration process.

September 2009 – April 2014

Stewardship Program Coordinator and Land Manager

Los Cerritos Wetlands Authority

Duties: Organize stakeholders for cooperative public programming include land tours, habitat restoration events, citizen science projects, and trash clean ups. Apply for grants for project funding, write permits, design work plans and implement community-based restoration with service-learning components. Design plant palette and perform necessary post-restoration maintenance and monitoring. Work closely with lessees and neighboring land owners regarding land management issues.

May 2007 – December 2008

Ecologist and Project Manager

San Gabriel River and Mountains Conservancy, Azusa, CA

Duties: Manage grant program servicing various urban habitat restoration and enhancement projects within the San Gabriel River Watershed and assist with RMC grant programs.

September 2007 – December 2008

Ecologist and Project Manager

Los Cerritos Wetlands Authority, Azusa, CA

Duties: Manage and designed stewardship program for the LCWA wetlands properties. Interface with local interest groups, researchers, funding agencies, regulatory agencies and staff from the City of Seal Beach, the City of Long Beach, the Rivers and Mountains Conservancy, and the Coastal Conservancy to acquire, conserve and restore the Los Cerritos Wetlands.

January 2006 – April 2008

Director of Research and Education

Los Cerritos Wetlands Stewards Inc., Long Beach, CA

Duties: Worked with naturalist staff to organize volunteers and researchers so that local habitats can be best managed. Gained experience with management of urban wetland, upland and marine reserves, removal of non-native plants, native plant cultivation, nature tours, wetland clean-ups, public education, field study experimental design, writing grant proposals, volunteer coordination, and naturalist training.

Fall 2005

Field Biologist

EDAW Environmental Planning Company, Los Angeles, CA

June 2001 – December 2002

Laboratory Technician for Dr. Heather Henter

Division of Biological Sciences.

University of California, San Diego. La Jolla, CA

Academic Employment:

January 2007 – December 2014

Part-Time Faculty Lecturer

Environmental Science and Policy Program

California State University, Long Beach.

Courses Taught:

- **Environmental Science & Policy 400: Environmental Capstone Project (Lecture and Lab).**

For the past 6 years, this course has performed research projects exploring the land use policies, economic benefits, geologic content, ecological complexity, urban impacts, and political climate surrounding Los Cerritos Wetlands. This compilation of data has proven to be an extremely valuable service to the Los Cerritos Wetlands conservation effort and has been as instructive for the instructors as it has been for the students.

August 2006 – December 2008

Part-Time Faculty Lecturer

Department of Biological Sciences

California State University, Long Beach

Courses Taught:

- **Biology 208: Human Anatomy** (Lecture).
- **Biology 211B: Organismal Biology** (Lecture and Lab).
- **Biology 205: Human Biology** (Lab).

Positions Held:

September 2006 – December 2008

- Member of the Board of Directors for Friends of Colorado Lagoon
- Chair of Education Program Committee for Friends of Colorado Lagoon

August 2006 – April 2008

- Member of the Board of Directors for the Los Cerritos Wetlands Stewards Inc.

Fall 2005 – Spring 2006

- President and Founder of Biology Student Graduate Society. California State University, Long Beach.

Publications:

E. F. Zahn. **2012**. The complexity of urban tidal wetlands restoration exemplified at Colorado Lagoon. *Urban Coast* Vol. 3, Issue 1.

Fernández-Juricic, E., **E. F. Zahn**, T. Parker, and T. Stankowich. **2009**. California's endangered Belding's savannah sparrow (*Passerculus sandwichensis beldingi*): tolerance of pedestrian disturbance. *Avian Conservation and Ecology* **4**(2): 1. URL: <http://www.aceeco.org/vol4/iss2/art1>.

Relevant Presentations and Abstracts:

“Estuarine Restoration Planning for Future Coastal Conditions at Los Cerritos Wetlands.” **Zahn E.F.** Coastal and Estuarine Research Federation Conference. April 2016.

“Past, Present and Future Habitat Type of Los Cerritos Wetlands.” **Zahn, E.F.** Aquarium of the Pacific Lecture Series. **June 2013**.

“California's Endangered Belding's Savannah Sparrow: *Tolerance of Pedestrian Disturbance*.” Fernández-Juricic, E., **E. F. Zahn**, T. Parker, and T. Stankowich. H2O Conference. **May 24th 2011**.

“Transitioning Flora of Southern California’s Coastal Salt Marsh Plant Community.” **Zahn, E.F.** California Native Plant Society South Coast Chapter **June 2010** Board Meeting.

“Restoring the Los Cerritos Wetlands: Assessment of Trace Metal Contamination.” Stevens, L.R., **Zahn, E.F.**, Hamilton, A., and Mull, C., (2010). Poster in GSA Cordilleran Section, May 27-29.

“Utilizing The Environmental History of Colorado Lagoon in a Community-Based Restoration Project.” **Zahn E.F.** H20 Conference, **October 29th, 2009.**

“Restoring Los Cerritos Wetlands: Waiting for the Tides to Return.” **Zahn, E.F.** Aquarium of the Pacific Lecture Series. Long Beach, CA, **November 30th, 2009**

“Where is Los Cerritos Wetlands?: Balancing Urban Impacts On A Coastal Salt Marsh Before The Tides Re-Turn.” **Zahn, E.F.** City of Long Beach, SEADIP Town Hall Meeting, **September 25th, 2008.**

“Restoring Los Cerritos Wetlands: Development of an Interim Stewardship Program for an Urban Coastal Salt Marsh Before Tidal Influence Returns.” **Zahn, E.F.** Southern California Wetlands Recovery Project Symposium. San Diego, CA, **May 2008**

“Invasive capabilities and population distribution of exotic ice plant in southern Californian coastal salt marshes.” **Zahn, E.F.** and Wijte, A.H.B.M. Western Society of Naturalists Conference. Monterey, CA. **November 17-19, 2005.**

“Invasive capabilities and population distribution of exotic ice plant in southern Californian coastal salt marshes.” **Zahn, E.F.** and Wijte A.H.B.M. Estuarine Research Federation Conference, Norfolk, VA. **October 16-20, 2005.**

Awards:

2014 American Society of Landscape Architects Public Stewardship Award. In recognition of the Friends of Colorado Lagoon Vision Plan.

2013 Alamitos Heights Improvement Association Community Service Award. In recognition of exceptional service to the Alamitos heights neighbor as the Restoration Director of Friends of Colorado Lagoon.

2012 AES Award of Appreciation Presented to Tidal Influence. In recognition of our commitment to the environment for our outstanding efforts to restore habitat and provide ecological education in the community

2006 Kenneth L. Johnson Award: Outstanding Thesis in the Life Sciences. Awarded to the Masters student with the best thesis of the year from the College of Natural Sciences and Mathematics. Presented by the College of Natural Sciences and Mathematics at California State University, Long Beach, on May 26th, 2006.

2006 Departmental Honors Award. Awarded to graduate students from within the Department of Biological Sciences who graduated with outstanding academic records. Presented by the Department of Biological Sciences at California State University, Long Beach, on May 26th, 2006.