

# Lincoln Beach Site Visit Report

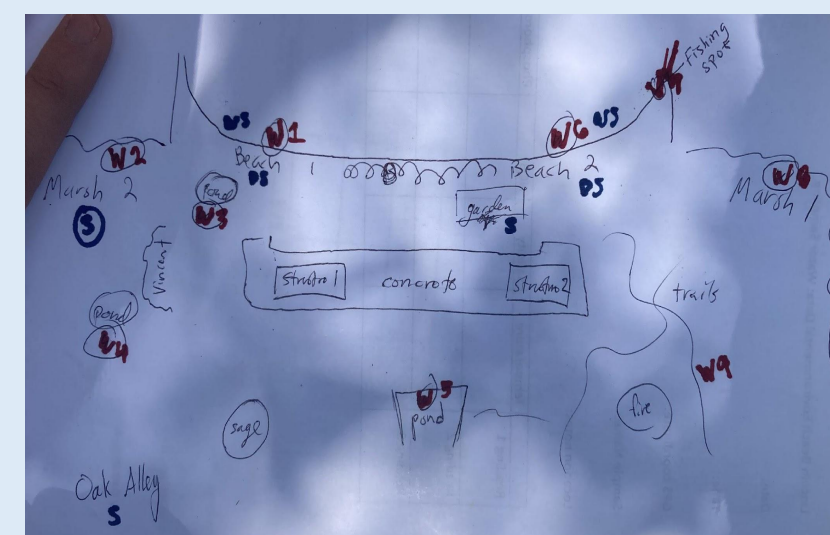
Part of a project for the Spring 2023 Department of Earth and Environmental Sciences seminar in Race, Climate Change and Environmental Justice (RCCEJ) in New Orleans.

**Introduction:** In partnership with New Orleans for Lincoln Beach and The Black School, this semester's DEES graduate seminar in Race, Climate Change, and Environmental Justice (RCCEJ) focused on the community-driven, environmental justice initiative to revitalize Lincoln Beach—New Orleans' historically Black beach, located on the southern shore of the Lake Pontchartrain estuary. The vision of transformation is drawn from community engagement through the organization New Orleans for Lincoln Beach, and imagines a space where community members can convene for environmental, ancestral and spiritual connection, in addition to swim lessons, garden cultivation and general public recreation. In light of these goals, the project's New Orleans-based partners hosted a site visit for students to gather on the beach in person, collect soil and water samples, and build a relationship with the beach itself.

The combination of community building, cultural knowledge sharing, and environmental sampling and testing, puts into practice the key theories discussed in the seminar—that science is not separate from the world it studies, and that knowledge production should be done within paradigms of resistance, liberation and sovereignty through partnership and pedagogical experiences. The culmination of the site visit, including results from sample testing, as well as the collective reflections and relationships built through community organizing, will go towards the construction of a mobile art exhibition which will be housed at the Ashé Cultural Center and on Lincoln Beach itself.

**Methods:** After a ceremonial offering and thorough tour of the 8-acre site led by beach expert Sage Michael, project participants drew up a map and planned locations for soil and water sample collections. The site itself consists of two beach fronts, two marsh sites, a concrete plaza with covered sections, several grass plots, wooded campsites and interconnected trails. There were several different water ecosystems of interest, including water from both beach sites, water from both marsh locations, and various sites of still water.

Soil sampling sites were selected under the advisement of Sage Michael for better understanding of historical and envisioned land use. For example, a sample was taken in the vicinity of an old swimming pool, and several samples were taken in grass plots that held potential as gardens, either for edible plants or native species rain gardens.



Preliminary testing has been done for both water and soil samples, and further sampling is planned for the near future. Salinity was measured both in situ and as part of the set of remote tests run on our collected water samples. Select samples were tested for phosphorus concentration. Soil samples were run through an x-ray fluorescence (XRF) analyzer to test for the presence of heavy metals, lead in particular.

A community meeting was held at the Ashé Cultural Center, hosted by Constance Thompson and Karel Sloane-Boekbinder, in collaboration with The Black School to reflect on tangible ways to implement the community vision report for Lincoln Beach.



**Preliminary Results:** Lead was minimally present in soil sample testing, with no sample reporting over 47 ppm, and many reporting less than measurable amounts (hazardous lead levels are anything exceeding 0.04% or 400 ppm). We were advised to interpret the results of the XRF output as more qualitative rather than quantitative, so further screening should be done to confirm exact concentrations across the site.

Water salinity was monitored across the site, returning levels between 0.7 and 0.9 parts per thousand at the two beach fronts, marsh areas, and sites of still water around the beach. The still water located at the levy tunnel site (W5) returned salinity levels much higher ranging from 1.8 to 2 parts per thousand.

Phosphorus was measured for water samples W1, W7 and W9, with average concentrations of 0.07 ppm, 0.06 ppm and 0.26 ppm

respectively. W5 was also tested for phosphorus, with two tests of the same sample returning 0.63 ppm and 1.05 ppm while two other tests returned results exceeding a 2.5 ppm concentration.

The Ashé Cultural Center community meeting furthered ideas for the actualization of elements in the Lincoln Beach Community Vision Report, such as nature-based solutions, trails and native vegetation restoration. Educational kiosks and cultural exhibits that allow for the recovery of ancestral knowledge and engage youth participation through multi-sensory interaction were emphasized. Importantly, this collaboration served as groundwork for community organizing that is rooted in relationship and integrity for the reopening of Lincoln beach.

**Discussion:** A redistribution of resources is required to provide sampling and testing tools to community organizers at Lincoln Beach as those in community and reciprocity of the land should be the ones engaged in qualitative place-based sampling. Additionally, funding streams for weather stations and tide gauges should be identified to facilitate data collection in the area.

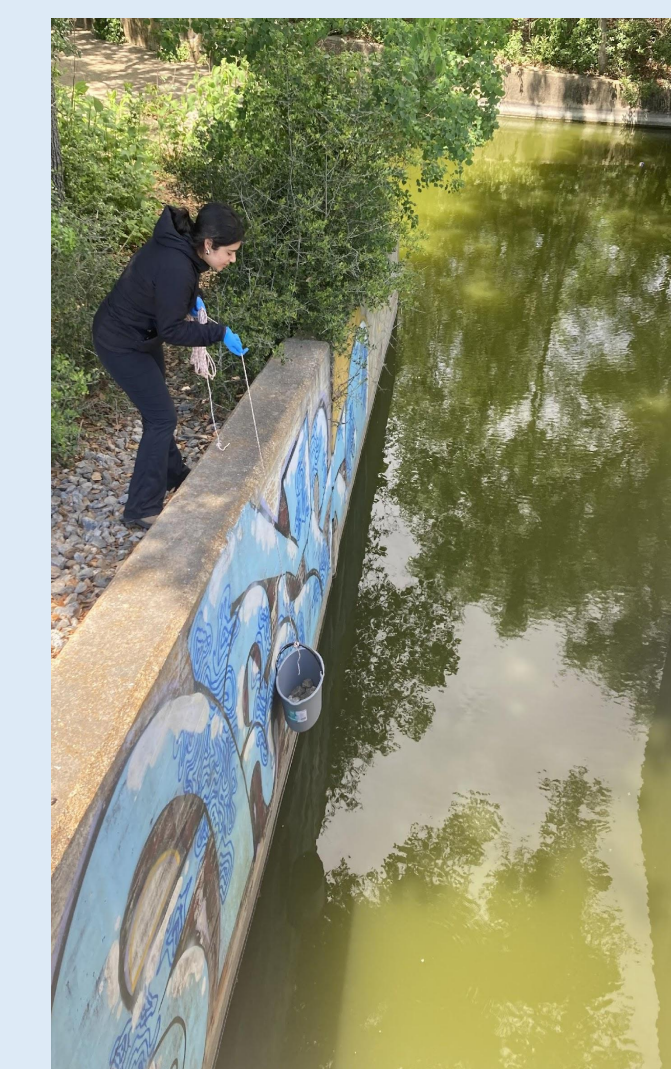
Salinity variation due to ENSO-related local precipitation shifts are more pronounced in Lake Pontchartrain (Cho & Poirrier, 2005), though our one-time results from Lincoln Beach return an inconclusive representation of this relationship. It remains unclear how the current salinity levels are influencing local flora and fauna but it is generally understood that current submerged aquatic vegetation populations are on the decline (Poirrier et al, 2017).

Further precision and ongoing testing are needed for the following: lead levels in soil across sites of particular interest, day-of measurements of nitrate and phosphorus concentrations at the beach's different water sites, and frequent salinity measurements at the beach's different water sites.

A broader aim of this site visit was to strengthen the relationship between New Orleans For Lincoln Beach organization, The Black School, the Ashé Cultural Center and the RCCEJ seminar. This partnership serves as a mechanism to hold the city of New Orleans accountable; the more visible the community initiative is, the more likely the city will be to listen to Lincoln Beach advocates and deliver on their promises for revitalization.

## References:

- Cho, H. J., & Poirrier, M. A. (2005). Response of Submersed Aquatic Vegetation (SAV) in Lake Pontchartrain, Louisiana to the 1997-2001 El Niño Southern Oscillation Shifts. *Estuaries*, 28(2), 215–225.
- Poirrier, M. A., Caputo, C. E., & Franze, C. D. (2017). Biogeography of Submerged Aquatic Vegetation (SAV) in the Pontchartrain Basin: Species Salinity Zonation and 1953–2016 Lake Pontchartrain Trends. *Southeastern Geographer*, 57(3), 273–293.



New Orleans For Lincoln Beach Community Vision Report



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