

Tracking the success of *Spartina Alterniflora* in the West Pond Living Shoreline Project

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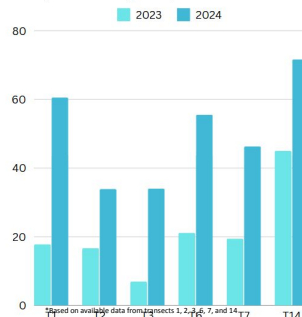


INTRODUCTION

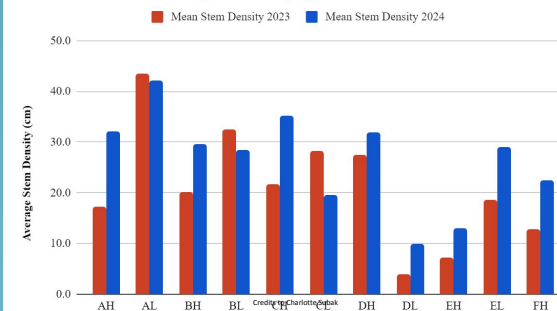
In 2012, Hurricane Sandy brushed through the New York area, negatively impacting the wetlands in the area. The West Pond Living Shoreline was recreated in 2021, and 119,691 *Spartina Alterniflora*, or smooth cordgrass plants, were added to the shoreline. The smooth cordgrass serves to stabilize the shoreline against erosion and is a sign of completed restoration. Our work focused on tracking the growth of smooth cordgrass in different transects and along the monitoring points to evaluate the efficacy of this project.

RESULTS

Point Intercept % Coverage of *Spartina Alterniflora* by Transect



Average Stem Density by Cell 2023 and 2024



METHODOLOGY

We used real-time kinematic positioning to locate the monitoring points in various transects, and at each point, we would use a 1 meter² quadrat to collect data on the mean maximum stem height, stem density, and percent coverage of smooth cordgrass in the 1 meter² and 0.25 meter² areas surrounding the monitoring point. We also collected sediment samples in these areas to later collect data on the sediment compaction and grain size in Brooklyn College's Lab.

CONCLUSION

The data we've collected shows immense growth in *Spartina Alterniflora* and general progression of the restored wetland, which leads us to conclude that the West Pond Living Shoreline Project has been going successfully. This conclusion is backed up by not only this data, but also the increasing visual presence of local wildlife, including fiddler crabs and terrapins. In addition to serving as a home for wildlife, this restored wetland can serve to prevent erosion and store floodwaters.

FUTURE RESEARCH

As our research focused on a long-term project, it will contribute to future monitoring and progression of West Pond, and some of our data and observations have been mapped out and will help serve as the foundation for potential future restoration projects in Floyd Bennett Field and Paerdegat Beach. As our program concludes, we ask ourselves:

- How can we help these wetlands thrive?
- What benefits can these wetlands provide to our communities?

STUDY SITES



Our study sites included West Pond, where we collected sediment samples data of *S. Alterniflora*, Floyd Bennett Field and Paerdegat Beach, where we took visual observation of the wetlands to map them out on ArcGIS mapping for future restoration, and Brooklyn College, where we helped with compaction and data collection of sediment and worked with ArcGIS.

ACKNOWLEDGEMENTS

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REFERENCES

- [Swadek, R.K., M. Larson, G. Cullman, K.L. King, J. Greenfeld, S. Charlop-Powers, and H.M. Forgiore. 2021. Wetlands Management Framework for New York City. Natural Areas Conservancy and NYC Parks. New York, NY.](#)
- [SMOOTH CORDGRASS *Spartina Alterniflora* Loisel. Plant Symbol = SPAL. July 2022.](#)