

# Little Environments PLLC

Hard and Soft Shorelines: When is it ever  
that simple?

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# Overview

- A few projects over the years
- A bit of technical components, tools and strategies.
- A bit of philosophy from observation

If we as humanity can cost effectively land, and re-land space ships on barges in the middle of the ocean, then why can we not cost effectively and proactively manage our shorelines?

# Project 1 – King Philip Rd



## Project 2 – Sagamore Highlands, Cape Cod



## Project 3 – White Cliffs Country Club



## Project 4- Kuhio Groin, Oahu











# Project 5 -Marbella Club, Palmas Del Mar, Puerto Rico



# Tech. A- Geosynthetics



# Tech A. Geosynthetics Versus Sandbags

- Engineered Composites and Intentional Materials versus woven- non-woven over and over again.
- BAW Testing such as the LA abrasion test for fabrics.
- Fabrics that trap sand to create a natural durable protective cover.
- Examine the container in a system as a dynamic tool, not just a "bag"







# Tech. B – Reduced Cost Buoys and Monitoring Devices





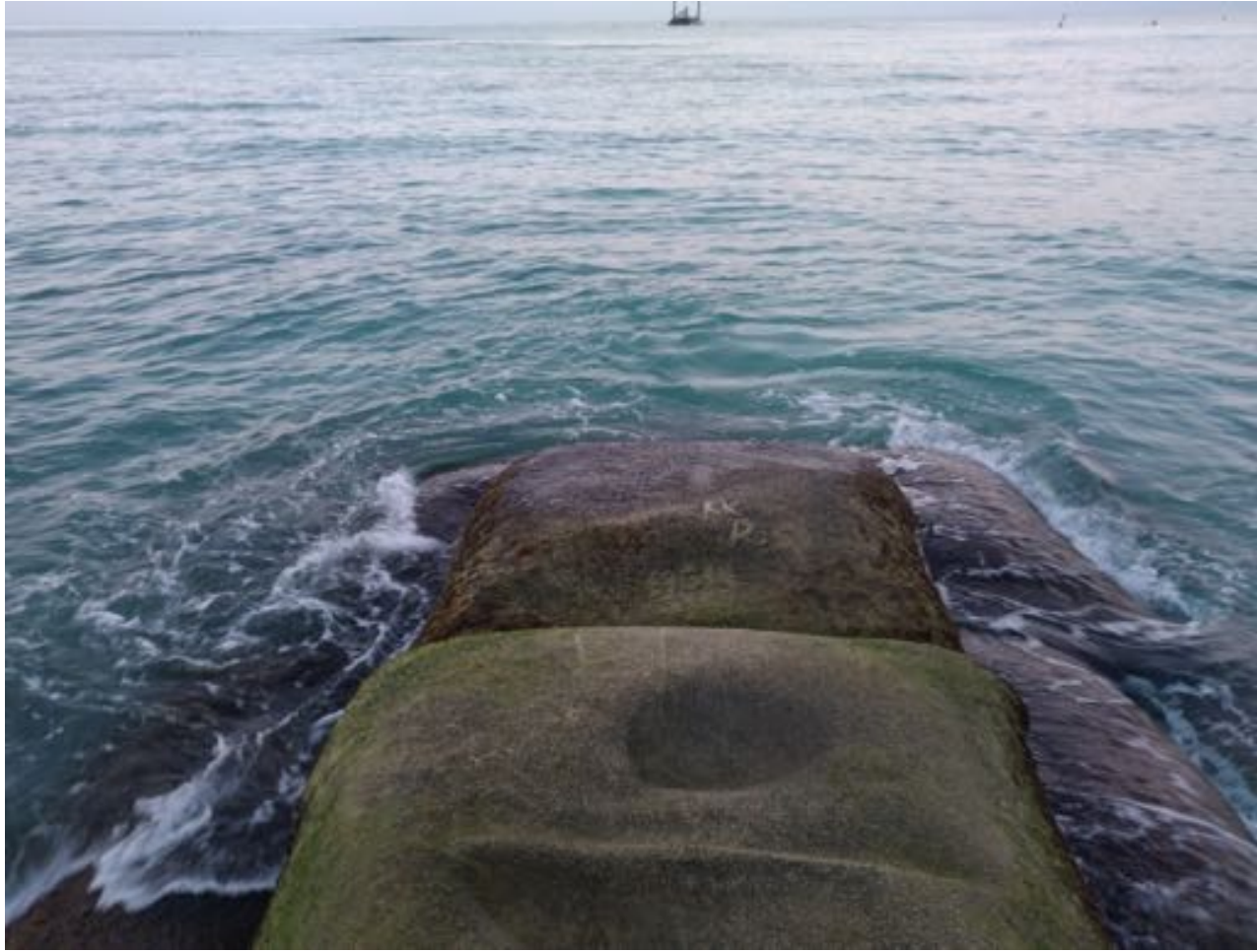
Tech C. – Information History

Keep Track

## Tech D. – The environment itself

- Adaptive management
- Vegetation Cover
- Marine Life Protection





# Tech E. –Traditional Civil and Coastal Engineering

# Philo 1. – Probabilistic versus Deterministic Engineering



## Philo 2. – Adaptive Management

Philo 3. – When something changes, positive or negative, determine why it changed, quantitatively then learn from it and then use that information.

## Philo 4. Engineered Structures as Tools

Nothing is infinite or perpetual with the ocean.

Your most cost advantageous performance solution may not be the structure with the longest design life or most typically robust materials.

# How We Can Improve

- Monitor the near shore wave climates.
- Monitor shorelines and their response to the events.
- Correlate offshore buoys to nearshore buoys.
- Own your data and be critical of others.
- Design coastal management strategies to mimic and adapt to the environment around it not surveyed line.
- Be smart, hard v. soft is not.

Hope fully we can enter into an age of applied and informed decision making for our coastline and deviate from a history with wealth of information that is however paralyzed in the analysis and decision making.

It is about making better decisions.

-Dabo Swinny

