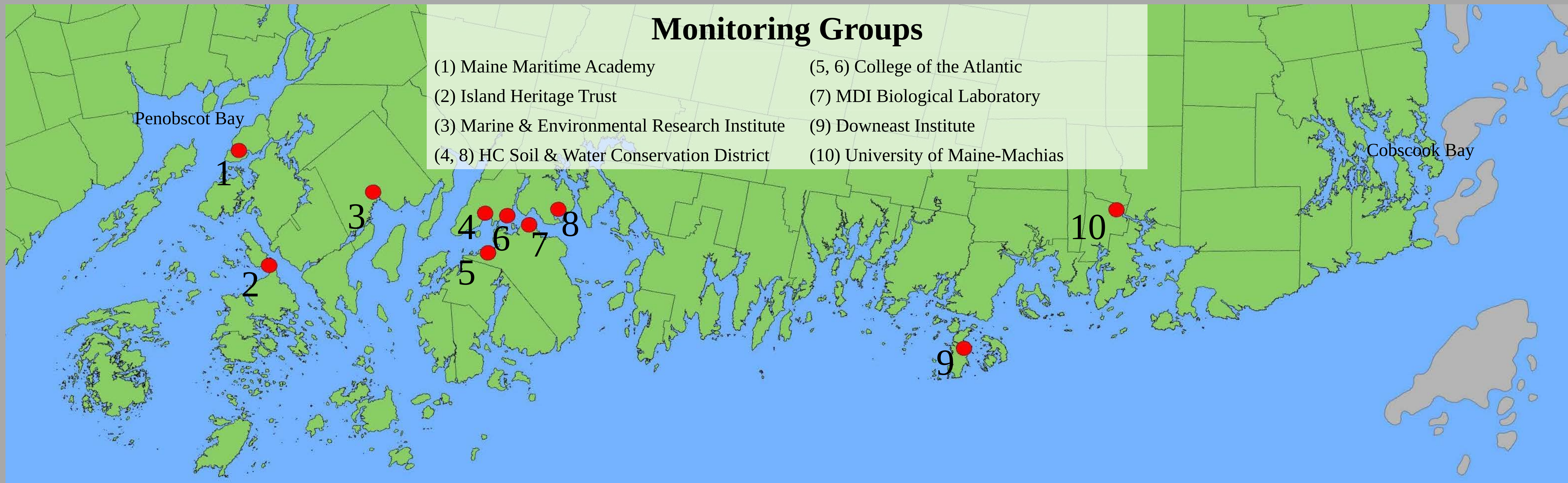


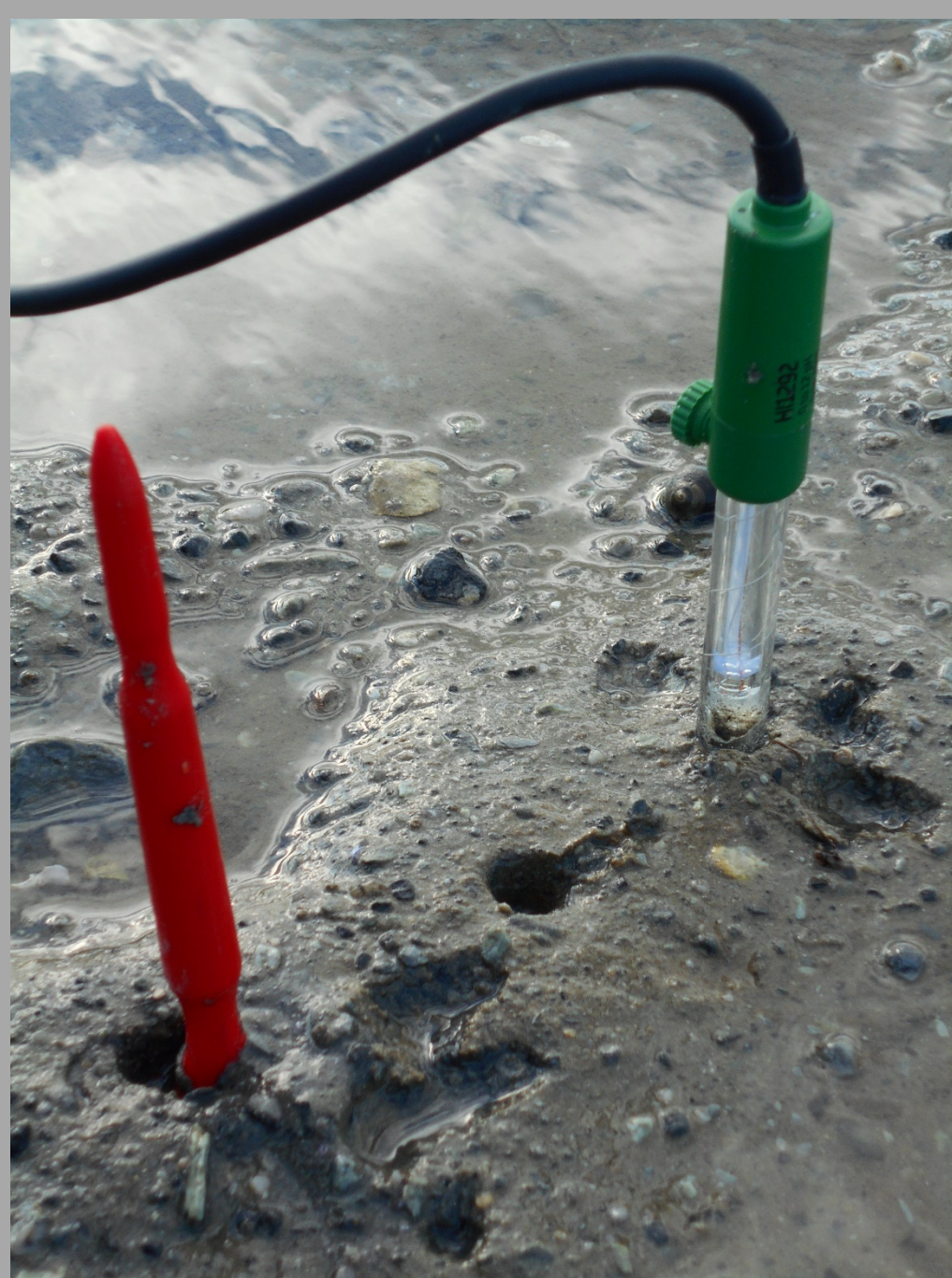
Monitoring marine sediment as an indicator of a changing ocean

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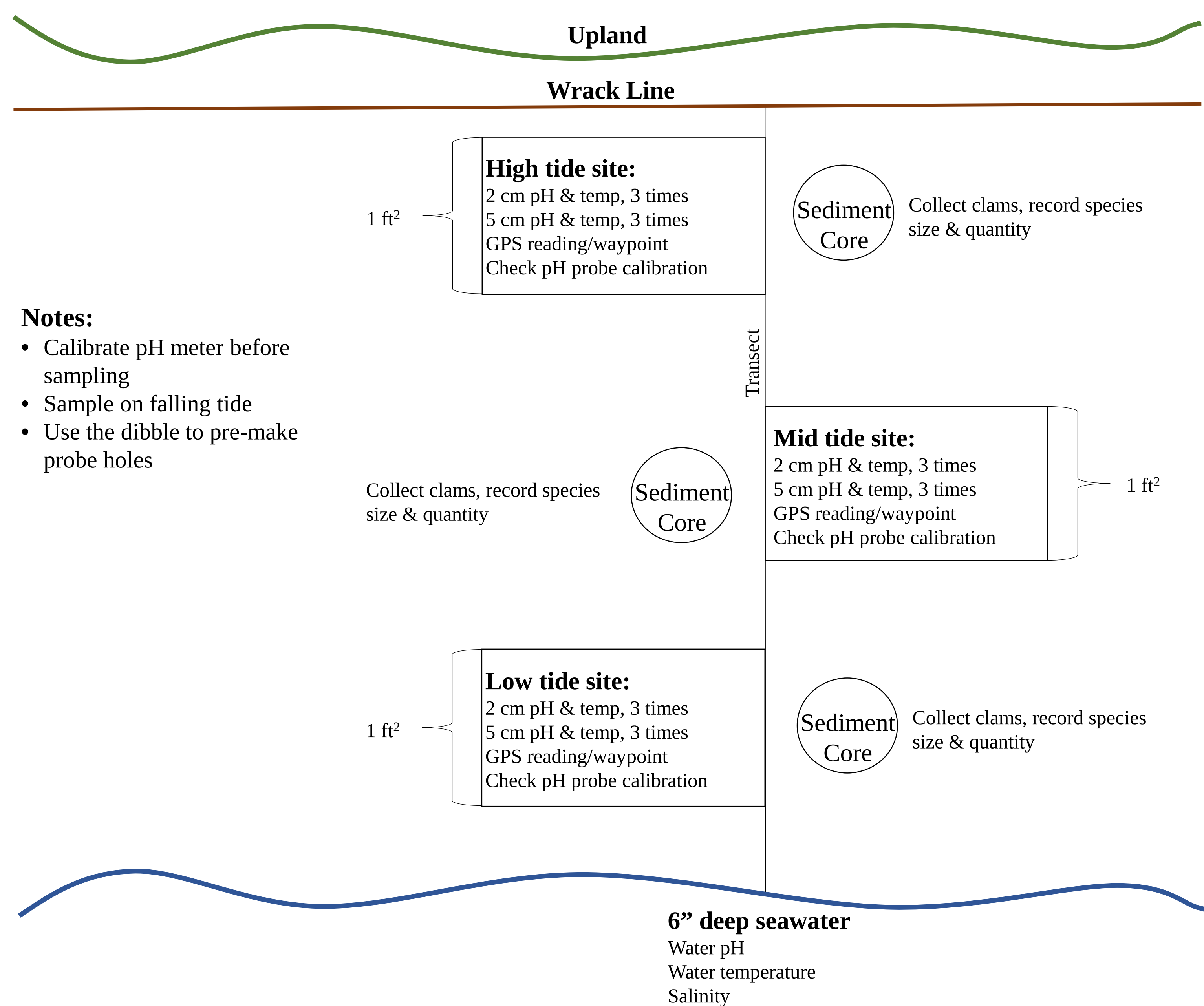


Abstract

The purpose of this study is to monitor intertidal marine sediment pH and shellfish recruitment within Hancock and Washington Counties as indicators of ocean acidification. Shell-producing species are a vital commercial resource to the State of Maine and are especially important to the local economies in Hancock and Washington Counties. The protocol is designed to engage nonprofits, citizen scientists, and academics in the monitoring of local resources. The data will inform local, state, and federal government agency resource management decisions.



Protocol



Goals

- 1) Establish pH baselines for Downeast mudflats.
- 2) Monitor clam recruitment.
- 3) Create a strong network of local partners.
- 4) Provide education & outreach to local communities.



Preliminary Data

From stations 3, 4, and 8

- 1) Sediment pH is variable but low (~5.8 to ~7.5).
- 2) There are temporal & intertidal variations.
- 3) Higher pH is present at sites with eelgrass compared to bare mudflats.
- 4) Clam recruitment is poor at all sites investigated.

Discussion Questions

- 1) Should we use fixed or random transects?
- 2) Are three readings per depth per site enough with such variability?
- 3) What additional variables should we consider?
 - Upland
 - Predators
 - Grain size/substrate
- 4) What local knowledge should we pursue?
- 5) Who are the key individuals or groups we should contact?
- 6) How should we share our findings with these key groups?



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