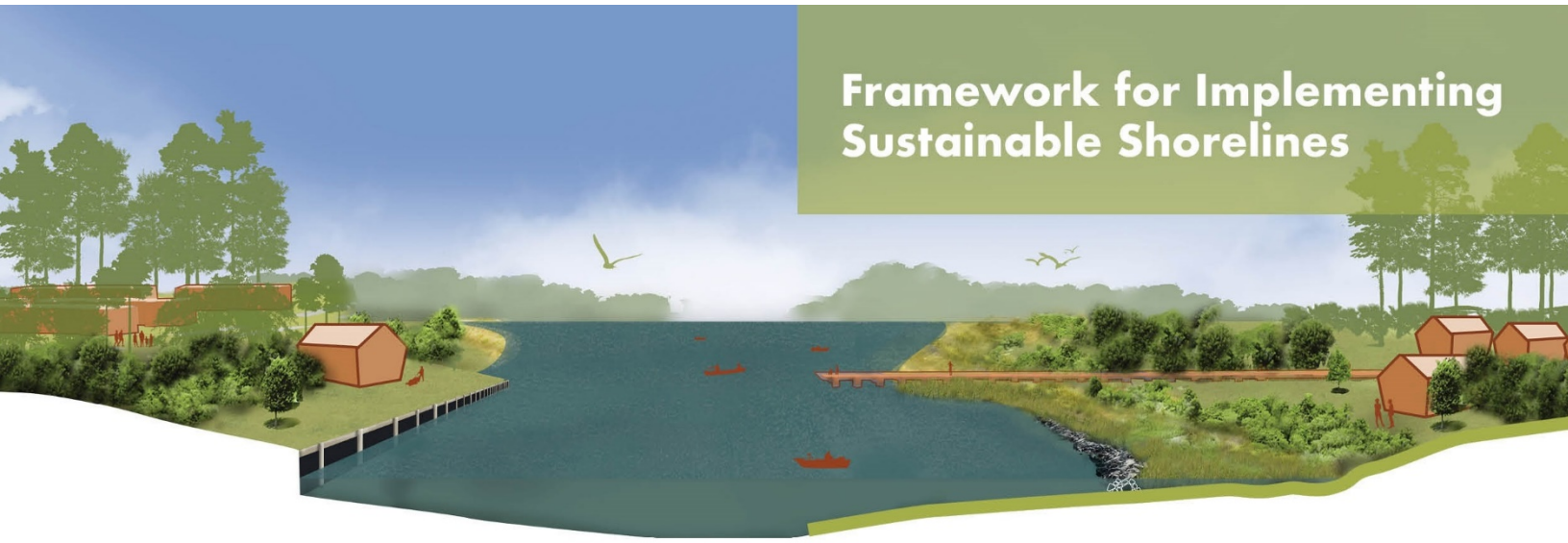


# Summary of Social Science Investigations:

## Shoreline and Marsh Laws

**Project Activity: Analysis of Shore and Tidal Wetlands/Marsh Protection Laws in Southeastern States** – Shana Jones 8/03/21

**Objective:** To examine governance affecting shoreline and tidal wetlands/marsh management practices to demonstrate the prevalence and distribution of specific shoreline management laws, what levels of government have relevant authority, and variation in characteristics of these laws across jurisdictions, both at the state and local levels.

**Methods:** Legal research and analysis.

**Progress to date:**

**Comparison of Shore and Marsh Protection Acts in South and Mid-Atlantic States**

An article, *Stabilizing the Edge: Southeastern and Mid-Atlantic Shorescapes Facing Sea- Level Rise,* appeared in the Columbia Journal of Environmental law in the spring of 2021. (Full citation: Shana C. Jones & J. Scott Pippin, *Stabilizing the Edge: Southeastern and Mid-Atlantic Shorescapes Facing Sea-Level Rise,* 46(S) Columbia. J. of Environmental Law 293-397 (2021)). The article analyzed ocean-facing and estuarine protection laws from Florida to Delaware, focusing on shoreline stabilization approaches (e.g., seawalls, bulkheads, and living shorelines). Findings include:

- The majority of ocean-facing shore protection laws in the study area have established jurisdictional lines designed to control the location of structures based on erosion rates, allowing for a more adaptive management approach driven by scientific data as sea-levels rise. A more explicit acknowledgement and accounting for sea-level rise will be necessary in many areas, however.

- A trend towards "freezing" the most oceanward jurisdictional baselines is occurring, suggesting that rising sea-levels and increased flooding may create pressure to "hold the line" when more dynamic and adaptive responses are needed. Estuarine managers should be aware of pressures that appear to be arising in ocean-facing areas to establish set baselines.

- All of the estuarine protection laws in the study area, in contrast to ocean-facing, define jurisdictional lines that measure pre-determined buffer widths from natural features. Estuarine shoreline management should consider incorporating more dynamic boundary determinations than natural features using data such as erosion rates or a method based on rates of local relative sea-level rise.

- Armored shorelines are almost always held to a lesser standard throughout the study area than nature-based living shorelines. Living shoreline projects often must justify that the location is appropriate based on structural suitability and scientific considerations such as fetch, bank elevation, erosion, and tides, which are not required for armoring. A question for policy-makers going forward is why "hard" armoring approaches such as bulkheads are not subject to the more comprehensive and specific science-based requirements applied to living shorelines.

- The importance of uniformity – established in large part through policies involving neighboring properties -- is woven throughout shore protection law and policy in the study area. These fall into four categories: policies designed to inform neighbors about proposed shoreline stabilization activities; policies designed to protect adverse impacts on adjacent properties; policies designed to protect against structures interfering with the adjacent property owner's riparian rights; and "gap-filling" and "shoreline alignment" policies designed to promote contiguous hardened shorelines. "Gap-filling" and "shoreline alignment" policies designed to promote contiguous hardened shorelines should concern coastal managers.

- Across the study area, a wide variety of values and interests are revealed, including, for example, habitat protection, dune preservation, beach access, hazard mitigation, recreation, economic development, property protection, public health, and aesthetics. These "public interests" very often must be "balanced" with economic concerns and private property rights, with the later often holding sway. Scholars researching enforcement have concluded that effective regulation requires clarity. Achieving clarity, however, also involves educating the regulated community, and studies have shown that such education efforts significantly improve compliance. An additional possible corrective to the inherent difficulty in weighing values is to improve the "analytic foundations for policymaking," as "considerable evidence suggests that the most sweeping and serious flaws in our environmental decision processes arise from data gaps and technical shortcomings."

- A "shorescape approach" to managing our coastlines is needed. Analogous to watershed approaches that have been pursued throughout the country, such an approach would rise above parcel-by-parcel management of the "edge" of the shoreline itself and allow for more holistic approach, allowing for better management of ever-increasing erosion and flooding impacts, the restoration of coastal habitats to offset unavoidable habitat losses, and for the marsh to migrate as sea-levels rise. A shorescape approach informed by spatial analysis and modeling also would advance more dynamic cooperative federalism, as it would allow for improved communication among different levels of jurisdictions, interjurisdictional coordination, and future scenarios planning to inform a more robust discussion of trade-offs and examination of competing goals. The Coastal Zone Management Act (CZMA) is a promising vehicle to build upon in order to implement a shorescape approach.

**Presentations on the article's findings:**

- *Stabilizing the Edge: Southeastern and Mid-Atlantic Shorescapes Facing Sea-Level Rise*, Climate Change Symposium, Columbia Journal of Environmental Law, Columbia Law School (with Scott Pippin)(March 2021).
- *Stabilizing the Edge: Southeastern and Mid-Atlantic Shorescapes Facing Sea-Level Rise*, Climate Change, Georgia Water Resources Conference, University of Georgia (forthcoming August 2021).

- *Stabilizing the Edge: Southeastern and Mid-Atlantic Shorescapes Facing Sea-Level Rise*, Climate Change, U.S. Army Corps of Engineers Webinar Series, (forthcoming October 2021).

In addition, the article received attention from the South Atlantic Salt Marsh Initiative, a partnership among Pew Charitable Trusts and the Southeast Regional Partnership for Planning and Sustainability (SERPPAS), a unique six-state partnership comprised of state and federal agencies and the U.S. Department of Defense. They have asked for a briefing and for a summary of the article's findings.

Also, a student assisting with legal research published a high-level and descriptive overview of ocean-facing shore protection laws, focusing on "no-build" areas and arguing that they may be described as applying either "fixed" or "floating" jurisdictional lines to establish no-build areas and/or setback lines for development in coastal areas. The cite is:

> Julia Shelburne, *Shore Protection for a Sure Tomorrow: Evaluating Coastal Management Laws In Seven Southeastern States,* 10:1 SEA GRANT LAW & POLICY J. 103, 107-109 (2020)

**Proposal of Policy Levers to Promote Living Shorelines Based on Comparison of Shore and Marsh Protection Acts in South and Mid-Atlantic States**

An article, *Towards Principles and Policy Levers for Advancing Living Shorelines* is under review at the *Journal of Environmental Management.* Informed by a comparative legal analysis of ocean-facing and estuarine shoreline management laws in seven mid-Atlantic and Southeastern states in the United States, the article identifies four categories of "policy levers" that reveal critical aspects of the human dimension in the estuarine management context. Specifically, these categories include: erosion control; consideration of neighboring stabilization structures; rebuild policies and sea-level rise projections; and location of jurisdictional boundaries. The article then identifies, within these categories, a series of "policy levers" that promote living shorelines. Identifying and understanding such policy levers is a critical first step to utilize modeling frameworks to simulate and evaluate how certain legal regimes either promote or inhibit the use of living shorelines for shoreline stabilization in estuarine environments. The article concludes that the policy levers that are the most optimal baseline choices to advance living shorelines include prohibiting shoreline stabilization in areas where erosion is controlled; eliminating hard armoring as the default erosion control stabilization preference; prohibiting "gap-filling" policies that connect or "align" existing, legal seawalls or armoring; requiring living shorelines in areas where a minimum percentage (10 to 25%) of the tidal shoreline is already armored; and requiring the replacement of hard armoring with living shorelines when repair is required or certain sea-level rise projections are met. Modeling frameworks incorporating policy simulations would allow coastal scientists and managers to better visualize how and to what extent policy choices advance or inhibit the adoption of living shorelines, setting the stage for a more comprehensive and adaptive approach to shoreline management.