



Framework for Implementing Sustainable Shorelines

Summary of Social Science Investigations: Virginia Shorelines Permitted for Modification (1970-2018)

Project Activity: Determine Miles of Approved Shoreline Structures (1970-2018) in Virginia

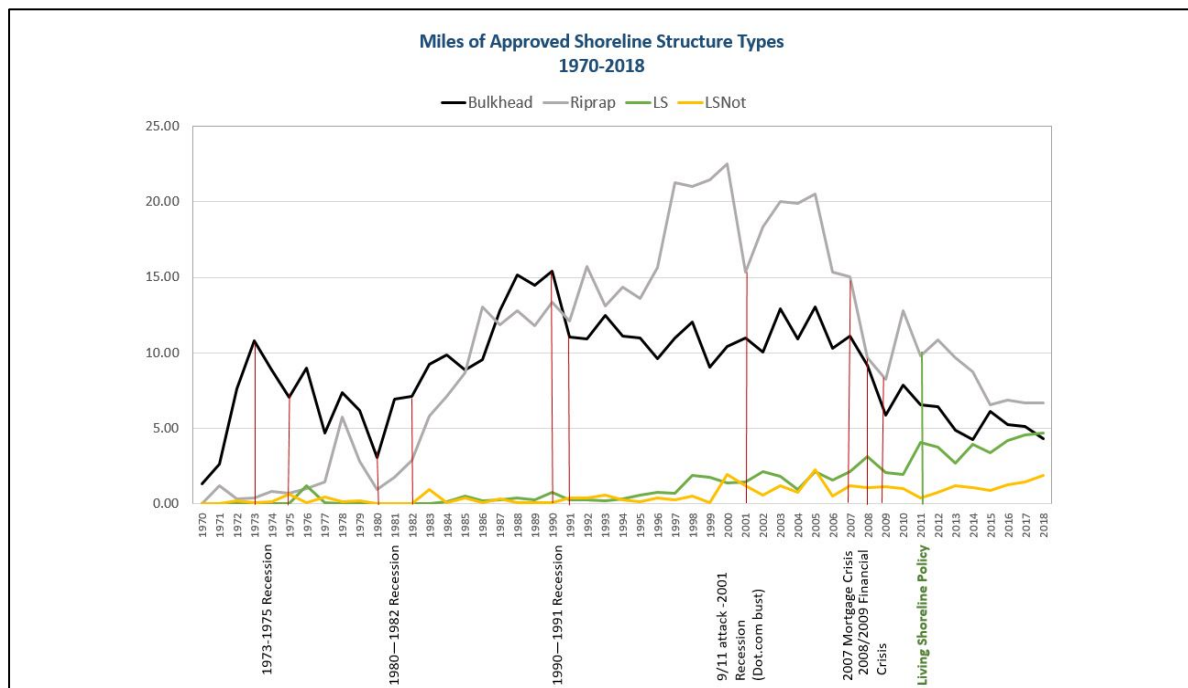
Objective: Collect information on the linear feet (or miles) of approved shoreline structure types (bulkhead, riprap, living shorelines, and living shoreline Not) between 1970 and 2018.

Methods: Data were obtained from review of Joint Permit Applications and downloaded information from CCRM Shoreline Permit and VMRC Permit databases. This information represents permitted miles shoreline structure types, not installed and present along the shoreline.

Data collected: Approved shoreline structures and associated linear feet. Shoreline structure type renamed into CCRM defined structure types and grouped into Bulkhead, Riprap, LS, and LSNot categories.

- Bulkhead = New bulkhead and replacement bulkhead (wood, vinyl, concrete, and/or block)
- Riprap = New revetment, replacement revetment, and/or bulkhead toe revetment
- LS = Living Shoreline (Marsh Sill, Marsh Toe, Breakwater & Beach Nourishment, Coir Logs, Oyster projects, Plantings)
- LSNot = Projects that are often termed living shorelines but do not function as a living shoreline because the land-water connection has not been maintained or 'living' elements are absent (e.g., Marsh sill with a back shore revetment Marsh Sill that extends from upland to upland and is enclosed, Breakwater without nourishment, Coir Log landward of a bulkhead).

Groin data only includes the length of the groin that runs perpendicular to the shoreline and therefore are not included in the dataset for miles of approved shoreline structure types.



Progress to date: Linear footage information collected for 28,757 shoreline structures. Joint permit applications were not available or complete for all permit numbers. Some approved linear feet totals interpreted based on the available data. Linear footage data based on information observed on Joint Permit Applications, linear foot numbers provided in VMRC permit database records, and other available supporting permit documents.