



Framework for Implementing Sustainable Shorelines

Summary of Social Science Investigations: Shoreline Permit Database

Project Activity: CCRM Tidal Shoreline Permit Database

Objective: Develop a comprehensive CCRM Shoreline Permit Database that will integrate Virginia tidal shoreline erosion control project and permit information from a variety of existing database sources into one master, searchable database. Continue to populate database with new information collected on shoreline erosion control projects from Joint Permit Applications (JPAs) submitted to the Virginia Marine Resources Commission (VMRC), as well as project shoreline site characteristics, preferred shoreline management recommendations from CCRM's Comprehensive Coastal Resource Management Portal (CCRMP), and additional information as needed to support various aspects of the NSF project, such as field site selection, comparative assessments, and a variety of surveys and analyses of social and natural systems.

Methods: We developed a comprehensive shoreline erosion control permit database (Microsoft ACCESS) utilizing fillable forms to house Virginia tidal shoreline erosion control permit and associated project information. Joint Permit Applications (JPAs) submitted to the Virginia Marine Resources Commission (VMRC) for proposed shoreline erosion control projects and associated information were reviewed. Project location were determined and coordinates identified. The following project information was extracted into the database: VMRC Number; applicant name and contact information; property owner information; contractor; project type, length, impacts, wetlands board decision, board minutes, project location (site address, locality, parcel ID, and lat., long.); fetch, waterway, year built; compliance; preferred shoreline management approach and consistency with BMP recommendations. Shoreline permit and associated project information is obtained from VMRC permit database, VIMS Shoreline Permit Records website, locality CCRMPs, local government websites, Google Earth and Bing maps.

Progress to date: CCRM Shoreline Permit Database was created in Access. Data have been collected on 17,332 shoreline erosion control projects to date. Data are continually collected on proposed shoreline erosion control projects and fields added as necessary for research needs. Older project information is updated as needed. Living shoreline projects were the initial focus for new information to the database, however, all erosion control project types are now being tracked and their data inputted.

Data queries were developed for multiple aspects of the project including:

- Sites for field investigation of multiple ecosystem functions of living shorelines were identified querying selected project criteria.
- Gloucester, Norfolk, and Lancaster Shoreline permit and property owner data for 2013-2018 was compiled for waterfront property owner social survey and property owner shoreline modification decision making analysis.
- Oyster (shell, bag, and structure) shoreline project data (2000-2018) compiled for use in conducting comparative assessments of wave attenuation of oyster structures, stone sills, and control shorelines.
- Miles of approved shoreline structure types (1970-2018) as defined and categories by CCRM and based on available Joint Permit Application information generated. (This information does not represent miles of shoreline structure types installed and present along the shoreline, only permitted).

- Contractor and agent contact, shoreline project, location, locality and additional information compiled for “The Role of Marine Contractors and Agents in Shoreline Decision-Making” survey and analysis portion of NSF project.
- 2018 Virginia tidal shoreline permit records related to erosion control including the applicant name, mailing address, approved shoreline structure type, VMRC number, living shoreline category, LF, Site Address, and Locality compiled to identify shoreline erosion control applicants for NSF waterfront shoreline property social surveys and property owner shoreline modification decision making analyses.
- 2019 Virginia tidal shoreline permit records related to erosion control to include the VMRC number, Applicant name, Applicant mailing address, Project Site Address compiled for the NSF waterfront shoreline property social survey and property owner shoreline modification decision making analysis.
- Marine Contractor and Agent information inputted for all projects between 2014-2018 for use in the Marine Contractor data analysis.

Visuals:

CCRM Tidal Shoreline Permit Database - Main Form View

VMRC_Nr	Application	Locality	Approved_Project	LF Appr	Board_Decision	Latitude	Longitude	Physical_Address	Waterway
14-0105	1/27/2014 Fairfax		Revetment - Remove existing bulkhead	100	Approved as Proposed	38.651459	-77.13932	11325 River Road	Potomac River HI
14-1560	10/21/2014 Gloucester		Bulkhead	87	Approved as Proposed	37.381576666667	-76.465042	8355 Ray Brown Jr. Lane	Ware River HI
14-1560	10/21/2014 Gloucester		Bulkhead Toe Revetment	87	Approved as Proposed	37.38154	-76.46505	8355 Ray Brown Jr. Lane	Ware River HI
14-1617	11/3/2014 Gloucester		Revetment - Remove existing bulkhead	200	Approved with conditio	37.32342	-76.472752	3991 J. Leonards Place	Severn River LC
14-1625	11/3/2014 Gloucester		Marsh with Sill	80	Approved as Proposed	37.444424	-76.446315	8879 Waverley Lane	North River M
14-1625	11/3/2014 Gloucester		Marsh with Sill (Extension)	25	Approved as Proposed	37.444316	-76.446365	8879 Waverley Lane	North River M
14-1625	11/3/2014 Gloucester		Marsh with Sill	65	Approved as Proposed	37.444577	-76.446365	8879 Waverley Lane	North River LC
14-1611	10/31/2014 Richmond County		Revetment	160	Approved as Proposed	37.822659	-76.700409	52 Mildren Lane	Rappahannock HI
14-1611	10/31/2014 Richmond County		Groin(s)	96	Approved as Proposed	37.822619	-76.700423	52 Mildren Lane	Rappahannock HI
14-1612	10/31/2014 Richmond County		Revetment	242	Approved as Proposed	37.830943	-76.71157	931 Riverdale Road	Rappahannock HI
14-1612	10/31/2014 Richmond County		Groin Replacement	360	Approved as Proposed	37.828913	-76.705546	931 Riverdale Road	Rappahannock HI
14-1612	10/31/2014 Richmond County		Revetment	205	Approved as Proposed	37.829066	-76.705586	931 Riverdale Road	Rappahannock HI
14-1610	10/31/2014 Mathews		Groin Replacement	110	Approved as Proposed	37.504613333333	-76.279013	122 Driftwood Drive	Chesapeake Bt HI
14-1622	11/3/2014 Mathews		Bulkhead Replacement	50	Approved as Proposed	37.491608333333	-76.293492	107 Millstone Lane	Edwards Creek M
14-1621	11/3/2014 Mathews		Revetment	150	Approved as Proposed	37.481158	-76.326236	54 Hookemfair Road	Winders Creek LC
14-0759	5/29/2014 Norfolk		Bulkhead Replacement	130	Approved as Proposed	36.855554	-76.305756	803 Front Street	Elizabeth River M
14-0759	5/29/2014 Norfolk		Revetment	175	Approved as Proposed	36.855417	-76.305228	803 Front Street	Elizabeth River M
14-1421	9/23/2014 Norfolk		Marsh with Coir Log	180	Approved as Proposed	36.893121	-76.276247	133 East Severn Road	Wayne Creek LC
14-1481	10/6/2014 Middlesex		Revetment	270	Approved as Proposed	37.720532	-76.600359	187 Point Breeze Road	Rappahannock HI
14-1486	10/7/2014 Middlesex		Marsh with Sill	100	Approved as Proposed	37.562932	-76.340934	120 Blue Bird Lane	Sturgeon Creek LC
14-1503	10/8/2014 Middlesex		Groin Replacement	30	Approved as Proposed	37.571292	-76.343786	141 Dee Dee Lane	Rappahannock HI
14-1542	10/16/2014 Middlesex		Bulkhead Replacement	425	Approved as Proposed	37.542485	-76.334434	1444 Fishing Bay Road	Fishing Bay HI
14-1573	10/22/2014 Middlesex		Revetment	90	Approved as Proposed	37.589343	-76.34491	247 Otter Cove	Hunting Creek LC
14-1581	10/24/2014 Northumberland		Marsh with Sill	243	Approved as Proposed	37.999923	-76.345585	725 Hidden Point Road	Lodge Creek LC
14-1694	11/17/2014 Northumberland		Bulkhead	765	Approved as Modified	37.922211666667	-76.29781	149 Davis Way	Flag Pond LC
14-1741	12/1/2014 New Kent		Revetment	75	Approved as Proposed	37.526515	-76.875169	Pamunkey View Land	Pamunkey Riv M
14-1787	12/15/2014 Mathews		Bulkhead Replacement	354	Approved as Proposed	37.488011	-76.302527	463 Mill Point Road	Millford Haven M
14-1842	12/31/2014 Mathews		Revetment	35	Approved as Proposed	37.421165	-76.363051	120 Jordan Lane	East River M
14-1842	12/31/2014 Mathews		Revetment (Overlay/rework/replace)	150	Approved as Proposed	37.421226	-76.363227	120 Jordan Lane	East River M
14-1842	12/31/2014 Mathews		Marsh with Sill (w/backshore riprapp)	90	Approved as Proposed	37.421323	-76.363393	120 Jordan Lane	East River M

CCRM Shoreline Permit Database Attribute Table