Tidal Wetlands Management Technical Support Grant

Final Report

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Project Summary

This project provided tidal wetlands management technical support by the Virginia Institute of Marine Science, Center for Coastal Resources Management (VIMS-CCRM). Support was provided through a virtual workshop, e-newsletters, social media posts, shoreline advisory service, and by maintaining a permit tracking database. These professional development and technical guidance products for Virginia's shoreline decision-makers reflect the best available shoreline management science.

A virtual webinar focused on *Engaging the Community for Sustainable Shorelines* was held with more than 80 participants. A webinar recording and related resources were posted online for future reference.

Four CCRM E-Newsletters were produced to highlight recent research results, announcements, and upcoming events of interest to shoreline decision-makers. These newsletters were created and distributed using Constant Contact with online versions available. The number of reported opens ranged from almost 800 to just over 1,000 for each one.

Relevant news and updates were also shared through the VIMS-CCRM Meta/Facebook page and Instagram. Over 1,000 followers were alerted to shoreline-related news releases and event announcements with 65 posts to Meta/Facebook and 17 posts on Instagram.

General technical guidance was provided in response to 67 information requests from property owners, shoreline professionals, government staff, and other shoreline decision-makers. This ongoing tidal shoreline advisory service is tracked using a Microsoft Access database.

The Virginia Shoreline Permit Tracking Database was maintained under this project with the addition of 771 shoreline erosion control projects obtained from public permit records provided by the Virginia Marine Resources Commission. Permit records from coastal localities with shoreline inventory updates in progress were targeted to help confirm observations made with aerial photographs. Historical permit records also continued to be served on a VIMS-CCRM web site.

This report provides additional information about each of these project-related activities.

Product 1: Education / Outreach

Tidal Wetlands Workshop

Engaging the Community for Sustainable Shorelines

VIMS-CCRM hosted a Zoom webinar August 1, 2024 with a focus on technology advances and projects that make shoreline mapping, modeling, and community engagement more efficient. A virtual format allowed for unrestricted participation to reach a broad audience across coastal Virginia and beyond. This professional development webinar was attended by 81 participants from 11 Virginia coastal localities and 7 local wetlands boards, plus several other public and private organizations. Appendix A provides a list of webinar participants.

Presentations included guidance for Resilient Living Shoreline Designs provided by a representative from the Virginia Marine Resources Commission VMRC. VIMS-CCRM panelists demonstrated three new community engagement opportunities, including:

- Shoreline Inventory Updates & *MapMyShore* app
- Living Shoreline Monitoring & *ShoreWatch* app
- *ShoreBET* a new tool to calculate community economic benefits from tidal marsh restoration

Annual updates from shoreline management programs and partners covered Bay Act Resiliency Guidance and Tools, the Chesapeake Bay Program's Beyond 2025 proposals for wetlands, the Virginia Conservation Assistance Program VCAP, and a 2024 legislative session review of bills related to tidal shoreline management.

Webinar Webpage   https://www.vims.edu/ccrm/outreach/workshops/2024/index.php

Webinar Recording   https://www.youtube.com/watch?v=2sW5lMMgCKo

Handouts

- Digital Handout
- Shore-Bet Project Summary
- Shore-Bet Detailed Calculation

Presentations

- Workshop Introduction   *Karen Duhring Webinar Host, VIMS*
- Resilient Living Shoreline Designs   *Rachael Peabody, VMRC*
- Mapping Shoreline Conditions   *Karinna Nunez, VIMS*
- MapMyShore app demo   *Christine Tombleson, VIMS*
- Living Shoreline Monitoring   *Sean Gregory, VIMS*
  & ShoreWatch app demo
- Shoreline Programs & Partners   *Pam Mason, VIMS*

List of Participants - Appendix A

Shoreline Management e-Newsletters

Four editions of *e-News* communicated a variety of issues to inform and support Virginia's shoreline professionals and decision-makers. Recent research results and upcoming programs were announced with readers directed to related resources and web sites. These e-newsletters were created and distributed using Constant Contact with the annual subscription made possible by this project. This platform makes it possible to maintain a distribution list with nearly 3,000 email addresses, create standard templates, and track how many people open and read the contents.

The number of Reported Opens ranged from 791 to 1,029 for each newsletter.

1. **February 2024** – 2024 General Assembly shoreline management bills, Catch the King 2023 results, York River Coastal Wetlands Plan, and news articles. *1002 opens* https://conta.cc/48dfSVU

2. **May 2024** – Bay Act Resiliency, shoreline inventory updates, shoreline training opportunity, national wetland status and trends 10-yr report, news articles. *922 opens* https://conta.cc/4aWJPvR

3. **July 2024** – Webinar announcement, riparian buffer funding assistance, Virginia Permit Transparency Tracking System, Berkeley Plantation living shoreline success story, upcoming events. *1029 opens* https://conta.cc/3zLN634

4. **September 2024** – August webinar results, SHORE-BET marsh restoration calculator for the Middle Peninsula, MapMyShore app beta testing invitation, Catch the King community science event, DCR Share Your Flooding Story invitation, 3-yr resilient habitat study final report available *791 opens* https://conta.cc/4gtYAJw

Social Media

An ongoing social media campaign continued to inform followers about tidal shoreline activities and coastal issues in Virginia. Interesting content was posted 65 times to the VIMS-CCRM Facebook page and 17 Instagram posts were made. Posts were made about VIMS-CCRM activities and press releases, while posts from other Virginia coastal management partners continued to be shared and tagged, including NOAA, Commonwealth of Virginia agencies, American Shore and Beach Preservation Association, and the Middle Peninsula Master Naturalists who are sponsored by VIMS-CCRM.

The VIMS-CCRM Facebook/Meta page now has 1,009 followers, which is 220 more gained during the project period. There are now 310 followers of the Instagram account.

VIMS-CCRM Facebook Page   https://www.facebook.com/CCRM10/

VIMS-CCRM Instagram   https://www.instagram.com/ccrmvims/

Product 2: Technical Guidance Support

General Advisory Database

VIMS-CCRM responded to 67 information requests from property owners, shoreline professionals, government staff, and other shoreline decision-makers. General advice on shorelines and marine issues was provided via phone, email, and/or with on-site inspections when feasible. The advice delivered came from routinely used data and tools, including on-line resources at VIMS-CCRM, from other coastal partners and agencies, aerial imagery, decision tools and decision models. Referrals to other shoreline and coastal professionals were also provided. All general technical guidance is tracked in a Microsoft Access Advisory Database. All requests for advice associated with a Joint Permit Application (JPA) are also tracked in the Shoreline Permit Tracking Database.

Advisory requests regarding living shorelines continued to be a priority in support of State policy requiring the use of living shorelines as a shoreline management approach where suitable. Requests related to living shorelines involved suitability assessments, general advice about stabilization alternatives, living shoreline project trends, professional contact lists, and permit process information. Four shoreline site visits were made for living shoreline and erosion evaluations.

Advice Topic Areas	Information Requests
Living Shoreline suitability, design guidance, & trends	16
GIS Data Information & Downloads	12
Wetlands/Marshes, plants, nursery suppliers	10
Erosion control evaluations	8
Sea level rise planning & tides information	4
Fauna & fish information	3
Shoreline Inventory & Shoreline Management Model	3
Permitting, regulations, impact assessments	3
Other	8

Advice Requested From	Information Requests
Citizen/Property Owner	24
State Agencies (including DWR, VDOT, DEQ, SWCD, VCE, VIMS)	14
Local Government/Wetland Board Member/Elected Officials/PDC	9
Community/Non-Profit/NGO/Master Gardener/Master Naturalist	6
Consultant/Business Owner	6
Academic/Research/Students	4
Federal Agencies (USACOE, NSF, EPA)	3
Out of State Agencies (Maryland)	1

Shoreline Permit Tracking Database

A Shoreline Permit Tracking database is continuously updated by VIMS-CCRM to integrate permit information from various existing sources into one master, searchable database. The main purpose for this database is to support internal VIMS-CCRM research, outreach guidance, and policy trend analyses. This permit tracking database is maintained in hindsight after permits are issued, not in real-time as permit applications are being submitted. It is not designed or intended to be accessible to the public at this time.

Public permit records made available by the Virginia Marine Resources Commission are downloaded and filtered for erosion control projects only. The number of records added to this database does not correlate with the number of Joint Permit Applications reviewed. One application may have more than one project feature and each feature is captured as a record for this permit tracking database.

Each project record is assigned a type (living shoreline, bulkhead, revetment, etc.) and geo-referenced with latitude and longitude coordinates. Various other fields of project information are collected and entered into a Microsoft Access database. Local government and other websites, Google Earth and other aerial images, and field observations are referred to when necessary and available.

The database fields include but are not limited to the following information:
- VMRC number
- applicant name and contact information
- contractor
- project type
- length
- estimated impacts
- wetlands board & VMRC decisions and dates
- year built
- project location (site address, locality, parcel ID, and lat., long.)
- fetch and waterway
- specific information required by VIMS-CCRM to support research projects, such as field site selection, comparative assessments, and various surveys and analyses of social and natural systems.

During this project period, VMRC records from 2021, 2022, and 2023 were downloaded and reviewed. The Shoreline Permit Tracking database now has approximately 38,168 shoreline erosion control project records dated from 1970 to 2023. Data entry and geolocation have been completed for 11,407 of these records, including 771 during this project reporting period.

A majority of the new records added were associated with living shoreline projects located in coastal localities with shoreline inventory updates in progress under a separate CZM-funded project. Any evidence that the projects were actually built was of particular interest to inform the shoreline inventory updates. Living shoreline projects flagged by the original permitting agencies were carefully reviewed to accurately capture project dimensions and features.

Reviewing and interpreting Joint Permit Applications with additional documents and project revisions is a time-consuming process that requires basic knowledge of shoreline management, the regulatory process, and the ability to interpret permit drawings. Data entry improvements were also made to reduce the

amount of time it takes to review each permit application. Project type names were updated to include new innovation types. Simplified checklists were developed to make it easier to collect data from multiple sources.

These permit-related data are shareable upon request. Requests for information or analysis from this database are handled on a case-by-case basis. The data collected has previously been referenced, requested, and used by VIMS scientists, Virginia agency personnel, non-profit organizations and others studying or tracking shoreline management in and outside of Virginia. Examples during this project period include a request from the Chesapeake Bay Foundation about the number of living shoreline projects in Virginia. Someone else from academia requested permit records for bulkhead shorelines converted to living shorelines. Another example came from a journalist writing a story about living shoreline trends. This press release includes the number of permit requests to build living shorelines in Virginia derived from this database.

Living shorelines gain ground around the Chesapeake Bay but face hurdles. Timothy B. Wheeler. Bay Journal. January 22, 2024.
https://www.bayjournal.com/news/policy/living-shorelines-gain-ground-around-the-chesapeake-bay-but-face-hurdles/article_7e8fa37a-b934-11ee-b784-bfa4404808dc.html

Links to make a data request and to access the original online Shoreline Permit Records are available at this website.
https://www.vims.edu/ccrm/advisory/ccrmp/permits/

Historical Permit Records Database

VIMS-CCRM continued to serve historical records for tidal wetland Joint Permit Applications (JPA) dated from 1971 to 2010 in a searchable online database. These records include over 30,000 original JPAs with all associated photos, public hearing notices, additional information, and VIMS Reports. This database went offline temporarily during the project period due to recent changes in file storage paths. End users who routinely search for these historic permit records reported when the web site was down. The file connections and access to these historic permit records were restored as soon as possible after receiving this report.

Historical VIMS Shoreline Permit Application Records https://ccrm.vims.edu/perms/newpermits.html

Appendix A: Webinar Participants

A list of participants in attendance for the August 1, 2024 webinar as reported by Zoom, sorted by affiliation.

1	Karen Duhring	VIMS	Academic
2	Jeryl Phillips	VIMS	Academic
3	Sean Gregory	VIMS	Academic
4	Karinna Nunez	VIMS	Academic
5	Donna Marie Bilkovic	VIMS	Academic
6	Christine Tombleson	VIMS	Academic
7	Pam Mason	VIMS	Academic
8	Gabe Benson	VIMS	Academic
9	Owen Placido	U Connecticut	Academic
10	Catherine Duning	VIMS	Academic
11	Cyndi Wyskiewicz	VA Tech	Academic
12	Michael Weiss	George Washington University	Academic
13	Roy Widrig	New York Sea Grant	Academic
14	Deborah St.Ours	Citizen	Citizen
15	Schonna Dungan	Citizen	Citizen
16	Scott's iPhone Fath	Citizen	Citizen
17	Ben Davis	Citizen	Citizen
18	Linda Lowery	Citizen	Citizen
19	Michelle Ryan	Citizen	Citizen
20	George Mapp	Citizen	Citizen
21	Marsh Hayes	Citizen	Citizen
22	18043561730	Citizen	Citizen
23	althea1994$	Citizen	Citizen
24	17572724635	Citizen	Citizen
25	Rob Bourdon	NOAA	Federal
26	Erin Reilly	CBNERR-VA	Federal
27	William Allen	Newport News	Local Govt
28	Jan Leavitt	Fairfax	Local Govt

29	Kelsey English	Lancaster	Local Govt
30	T Sanger	Mathews	Local Govt
31	Kelly De Jesus	Westmoreland	Local Govt
32	Deyesuem	Newport News	Local Govt
33	Colon Gaskill	Norfolk	Local Govt
34	Whitney McNamara	VA Beach	Local Govt
35	Katie Hermann	Fairfax	Local Govt
36	Saundra O'Connell	Fairfax	Local Govt
37	Isabelle Meyers	Hampton	Local Govt
38	Jacob	Richmond County	Local Govt
39	Sarah Mitchell	Gloucester	Local Govt
40	Han Vu	Hampton	Local Govt
41	Brianna Heath	Northern Neck PDC	Local Govt
42	Tarig Omer	VA Beach	Local Govt
43	Jerry Stonefield	Fairfax	Local Govt
44	A Watts	Newport News	Local Govt
45	Meg Pittenger	Suffolk	Local Govt
46	Donte Wooten	Norfolk	Local Govt
47	J Dearstine	Norfolk	Local Govt
48	Beth Haines	Norfolk	Local Govt
49	Jim Milliken	VA Beach	Local Govt
50	P Pilcher	VA Beach	Local Govt
51	Jamie Ong	NYC Parks	Local Govt NY
52	Phil Prisco	Poquoson LWB	Local Wetlands Board
53	Ben Rudasill	Stafford LWB	Local Wetlands Board
54	Katy Walden	Mathews LWB	Local Wetlands Board
55	Rebecca Yasky	York Co LWB	Local Wetlands Board
56	Andy Pineau	Stafford LWB	Local Wetlands Board
57	Grethe Lindemann	Norfolk LWB	Local Wetlands Board
58	Anita Van Breda	Fairfax LWB	Local Wetlands Board
59	Cornell Owens	Poquoson LWB	Local Wetlands Board
60	Katherine McConnell	N Neck Shore Eval Program	Nonprofit

61	Ben Dukes	Portsmouth	Nonprofit
62	Callie Moyers	VA Aquarium	Nonprofit
63	Vincent Bowhers	Lynnhaven River Now	Nonprofit
64	Lucie Deignan	James River Association	Nonprofit
65	Don Brunk	VA Master Naturalist	Nonprofit
66	Keven Duerr	Hazen and Sawyer	Private
67	Mark Burchick	ESA	Private
68	Lesley Baggett	AKRF NY NJ	Private
69	Joanne Daniel	Timmons	Private
70	Alan Davis	Hazen and Sawyer	Private
71	Jenna Gregory	Hazen and Sawyer	Private
72	Charles Carter	remade land.com	Private
73	Aaron Hofberg	Wetland Studies and Solutions	Private
74	Eric Garner	WPL	Private
75	Yinting Hou	KCI	Private
76	Ingrid Bauer, PE	Wetland Studies and Solutions	Private
77	Leslie Wood	ESA	Private
78	Molly Jones	Wetland Studies and Solutions	Private
79	Kusalika Ariyarathne	Water Tech	Private
80	Lisa Dewey	DEQ	State govt
81	Rachael Peabody	VMRC	State govt
82	Maura Christian	DEQ	State govt
83	Brenda Winn	DEQ	State govt
84	Heather Mackey	DEQ	State govt
85	Mary Jacobs	DEQ	State govt
86	Jillian Seagraves	MD	State govt
87	Kayla Clauson	Delaware	State Govt DE
88	Colonial SWCD	Colonial SWCD	SWCD
89	Robyn Woolsey	Colonial SWCD	SWCD