

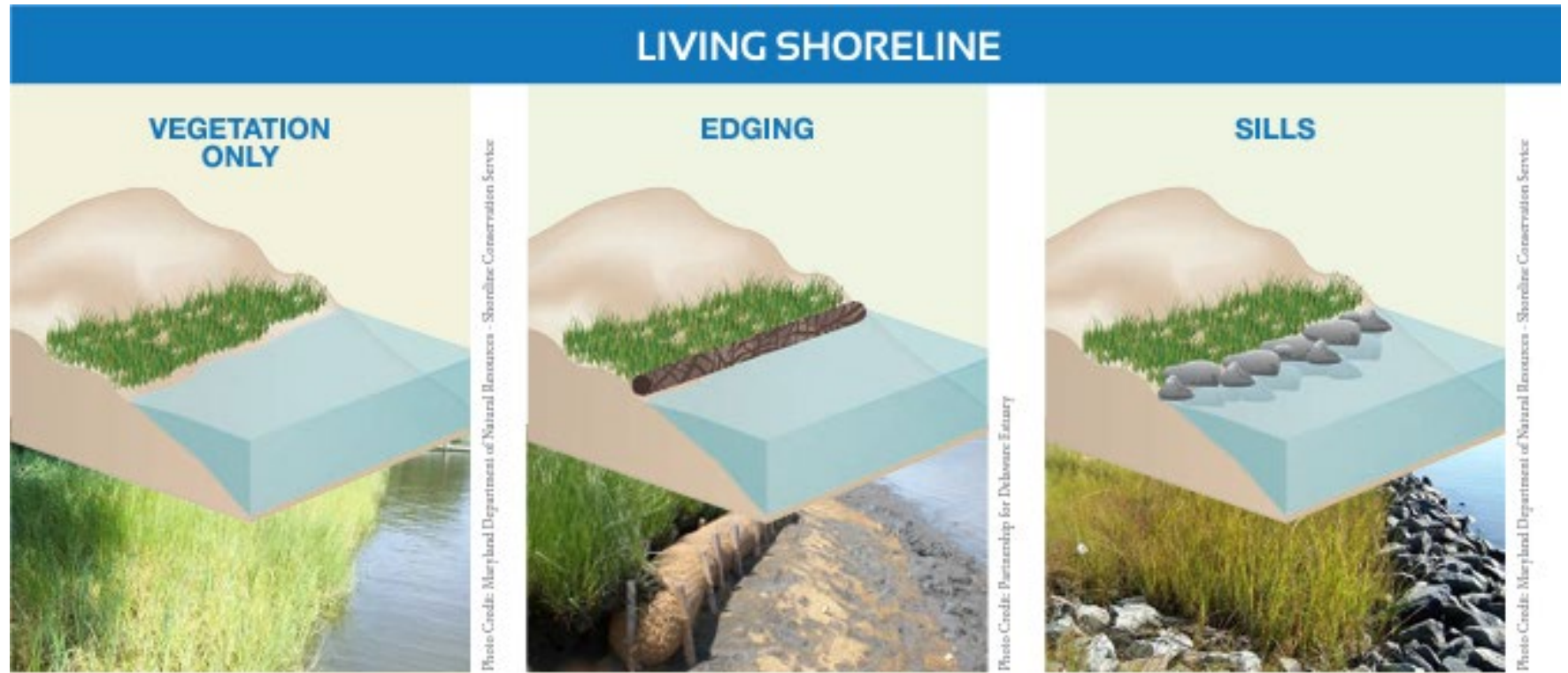
CBLP SHORELINES

Certificate Course

Professional development workshop designed for existing CBLPs and professionals working along the shoreline who want to add Living Shoreline Services to their business offerings. Attend all workshop days, complete assignments and an installation practicum to earn the certificate.

Includes webinars, field workshops, and videos presented by experienced professionals.

Essential Skills for Living Shorelines for Virginia General Permit Group 1 or 2



[SAGE Guidance Document](#)

Welcome - Zoom Reminders

- Please close other applications and eliminate other distractions
- Mute yourself when not speaking
- Turn off video when instructors are presenting
- Use the raise hand feature or chat box to ask questions or share comments
- Make sure your Zoom screen matches your name
- Listen actively and respect each other's perspectives
- Allow everyone a chance to speak without interruption
- Stay on topic

Please forgive any technology hiccups we encounter along the way!

Introductions

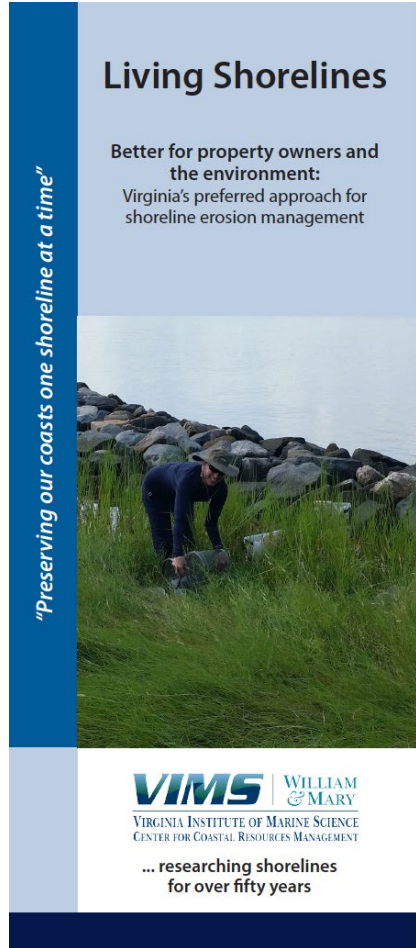
CBLP

- Stacie McGraw, Director of Operations & Living Infrastructure, Wetlands Watch CBLP VA Director
- Melissa Dombrowski, CBLP Coordinator, Delaware/Pennsylvania
- Perry Verge, CBLP Coordinator, Virginia

Today's Instructors/Speakers

- Christine Tombleson, VIMS
- Aaron Wendt
- Ellen Grimes, CRM
- Jim Cahoon, Bay Environmental
- Linda Miranda, Hampton University

Why CBLP -Shorelines



PARTNERS CREATING DEMAND, FUNDING AND **INSTALLING** more living shorelines throughout Hampton Roads and beyond

- *“Managing shoreline erosion is a complex subject. Seek professional guidance”*
- Preferred shoreline management practice in Virginia
- Expedited Permit Projects least complex, most don't require PE stamped drawings
- Need To Connect With & Hire Private Contractors And Consultants
- Existing Training And Recruiting System Informal or Intermittent tied to funding
- NFWF Funded to Establish A Consistent, Self-Funding Program, Adaptable To Other Locations And States

About the Collaborative

The **Living Shoreline Collaborative (LSC)** is a group of regional and state partners working together to *scale up implementation of resilient practices along shorelines* in the tidal James River watershed...and beyond.

Convened by James River Association
www.jamesrivershorelines.org





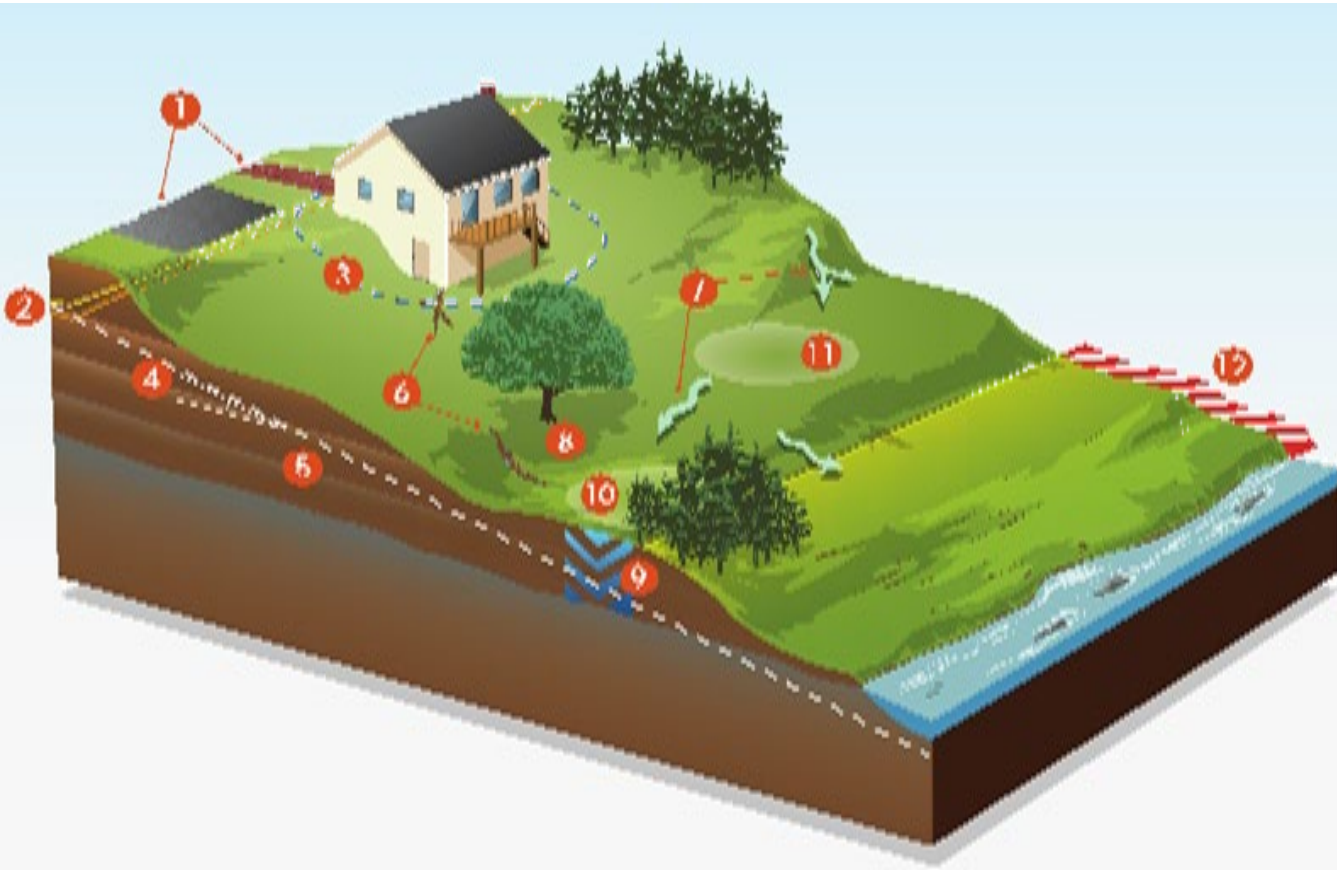
Align Partners, Establish Structure & Instructor Network, then
Refine, Expand - provide CBLPs w/ Advanced Training



Program Hallmarks – We Teach:

- Collaborative practice
- Critical thinking
- Unique regulations & ecology of Bay States
- Adaptive management
- How to find answers

Whole Site Evaluation



- 1) Location and Orientation of Impervious Surfaces
- 2) Utilities and Easements
- 3) Proximity to Structures
- 4) Slope
- 5) Soil Type
- 6) Erosion Problem Areas
- 7) Flow Paths
- 8) Location and Health of Existing Trees/Canopy & Vegetation
- 9) Depth to Groundwater (and seeps)
- 10) Sun and Shade Conditions
- 11) Available Space
- 12) Proximity to sensitive environmental areas

Source: Anne Arundel County Watershed Stewards Academy Rainscapes Manual Appendix A

CBLP-Shorelines Workshop and Certificate

Focus on Low Energy Living Shoreline Projects, Group 1 & 2 General Permits
Includes Field Experiences, Case Histories, Credentials, CEUs

Essential Skills for Living Shorelines
4-Day Professional Development Workshop

+ Field Practicum
Living Shoreline Install for
Certificate

Day 1 Overview, Permits, Advisory Services, Evaluating the Site
Day 2 Field Assessments, Design, Construction
Day 3 Materials, Design, Maintenance, Monitoring
Day 4 Design, Permits, Business Opportunities, Community of Practice



CBLP-Shorelines Workshop Materials

Welcome to the Virginia CBLP-Shorelines Workshop Materials page! This page contains everything you'll need for the workshop, including the agenda, pre-class assignments, PDF copies of the presentation slides, instructor contact information, and details about completing the hands-on requirement. Be sure to bookmark this page and refer back to it throughout the workshop.

Pre-Class Assignments

Day One

Please complete each section before attending class

Day Two

Review & be familiar with Key References:

Day Three

- [VIMS Living Shoreline Design Guidance](#)
- [VIMS Online Shoreline Management Handbook](#)
- [VMRC Wetlands Guidance & Wetlands Regulations](#)
- [Joint Permit Application](#)

Drawing & Permitting
Exercise

Watch the following videos:

[Intro to CBLP](#)

<https://certified.cblpro.org/cblp-shorelines-workshop-materials/>

Key References for Virginia + Learning Objectives



Living Shorelines

KEY REFERENCES:
VIRGINIA



General Information on Living Shorelines

Resource:
Type:
Source:

Design & Construction

Resource: Designing for Sea Level Rise Case History

Resource:
Type:
Source:
Description:
Ryan R

Permitting

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Planting Considerations for Living Shorelines

Case Histories



Case Study: Successful Living Shoreline Group II General Permit

Project Name: Elizabeth River Living Shoreline

Location: Eastern shoreline of Broad Creek, Norfolk, VA

Project Summary: To protect and restore an existing salt marsh shoreline from erosion, a homeowner worked with the Elizabeth River Project to permit 164 linear feet of hybrid living shoreline.

Project Description: This living shoreline project consisted of two sections of oyster castles (40 linear feet and 50 linear feet) and one section of coir logs (74 linear feet). The two Oyster Castle sills were built by stacking Oyster Castles 2- or 3- high with oyster shells placed on top of sills and channelward. The coir logs used for the single coir log section were either 12" or 16" in diameter. All three sections were placed above mean low water. Behind the hybrid living shoreline, clean sand (48 cubic

Typical Cross-Sectional View of
Proposed Broad Creek Hybrid Living Shoreline



Resources, Professional Standards of Conduct, How to Find a Pro

How long does it take to grow a living shoreline?



Consider your site

- Are you interested in:
 - erosion control?
 - wildlife habitat?
 - water quality?
 - a natural appearance?
 - coastal resilience?



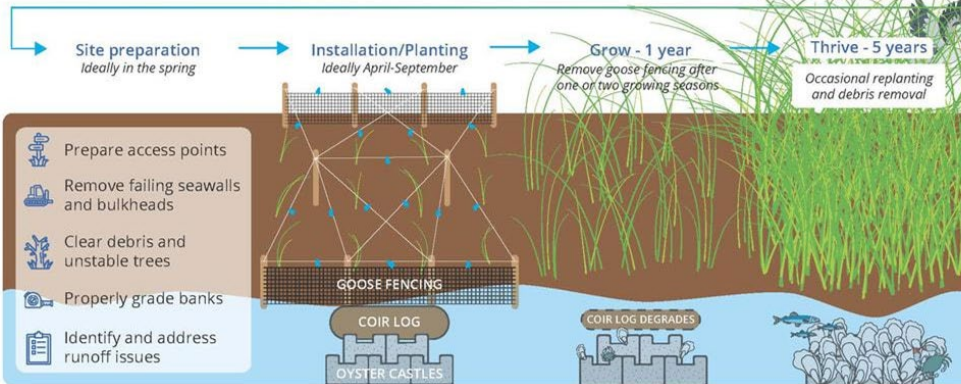
Reach out

Contact the Living Shoreline Collaborative for more information or guidance. You can also find information about financial assistance through our website. Reaching out to contractors or landscape professionals early on means they can answer your questions from the outset and help you with permitting.



Permitting

It can take 3-5 weeks to gather the necessary information and put together your permit application. You can then expect a wait of 60-120 days or more for approval.



Note: Living shoreline designs start with plants and use biologically beneficial structures (like coir logs and oyster castles) as needed. Specific designs are dependent on the site or goal. For example, you can still have a strong, beautiful living shoreline in an area where oysters don't grow - you just wouldn't use oyster castles there.

LOCAL LIVING SHORELINE DESIGNERS, ENGINEERS, AND INSTALLERS

GENERAL ORGANIZATIONS

Chesapeake Bay Landscape Professional: certified.cblpro.org/

Anne Arundel Watershed Steward Academy: aawsa.org/connect/

Contractors

static1.squarespace.com/static/544916c3e4b09edc336b555e/t/5d9ca712618dd9479c

LIVING SHORELINE QUESTIONS FOR CONTRACTORS

GENERAL EXPERIENCE AND CREDENTIALS

How long have you been in the landscaping design, consulting, or installation business?

- Ask about acknowledgements, awards or accolades earned for their work.

Are you licensed within your State?

Living Shorelines

Better for property owners and the environment:

Virginia's preferred approach for shoreline erosion management

"Preserving our coasts one shoreline at a time"



VIMS | WILLIAM & MARY
VIRGINIA INSTITUTE OF MARINE SCIENCE
CENTER FOR COASTAL RESOURCES MANAGEMENT

... researching shorelines
for over fifty years

Day 1 Overview

- Introductions, Background
- Business Opportunities & Collaboration Within a Community of Practice
- Breakout Session
- Problem Solving and Importance of Site Evaluation
- Living Shorelines as BMPs
- Navigating the Permitting Process Federal, State & Local
- Design, Construction, & Maintenance Considerations
- Construction Feasibility
- The Site, Homework and Preparation for Day 2

TODAY'S OBJECTIVES

- Provide a broad *introduction* to living shorelines and key considerations in design, permitting, installation, and management
- For lower energy environments and projects eligible for *VA Living Shoreline General Permit Types 1 and 2*
- For CBLPs and shoreline practitioners new to Living Shoreline work or seeking professional development
- Prepare you for the activities ahead.

Pre-Class Work

Review & be familiar with Key References:

- VIMS Living Shoreline Design Guidelines
- Shoreline Management Handbook
- VMRC Wetlands Guidance and Regulations
- JPA Permit Application

Watch the following videos:

- Intro to CBLP
- Why Living Shorelines?
- Living Shorelines 101
- Regulatory Context of Shorelines

<https://certified.cblpro.org/cblp-shorelines-workshop-materials/>

Why Living Shorelines?

- Marshes Store Carbon & Trap Sediment allowing marshes to accrete.
- Riparian Buffers allow marsh to migrate inland w/ sea level rise
- Improve Water Quality
- Provide Fisheries Habitat
- Promote Recreation
- 15ft of Marsh can absorb 50% of incoming wave energy
- More resilience to storms (bounce back) than bulkheads

<https://www.fisheries.noaa.gov/insight/understanding-living-shorelines>

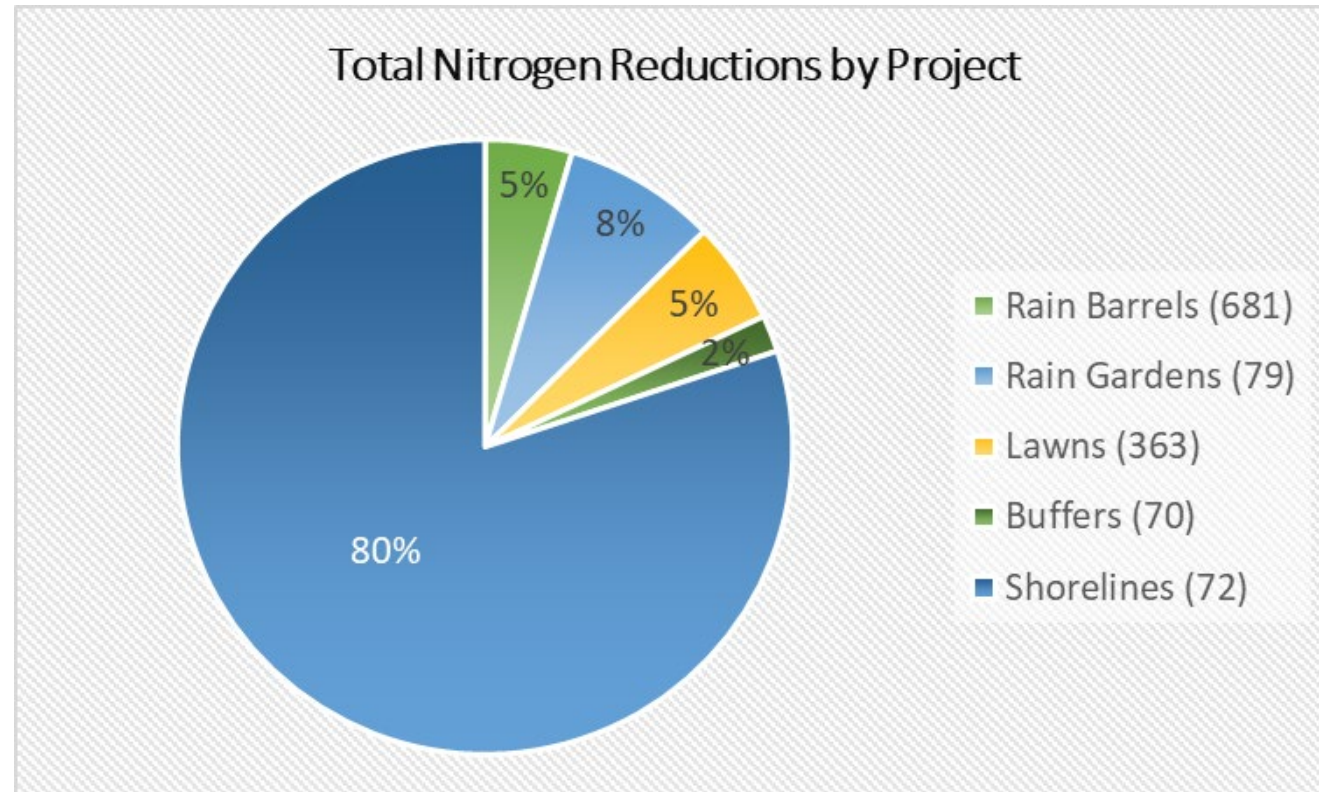
-- Mean High Water
+ Storm Surge



Why Living Shorelines? BMPs & Water Quality

Living Shorelines for Chesapeake Bay TMDLs

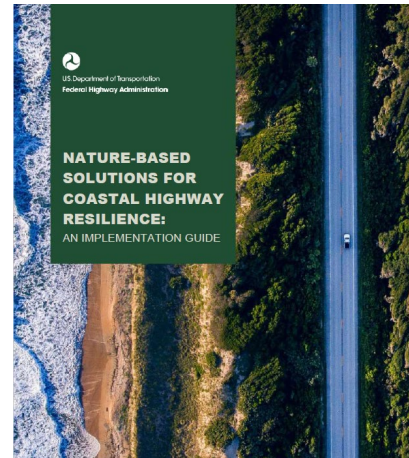
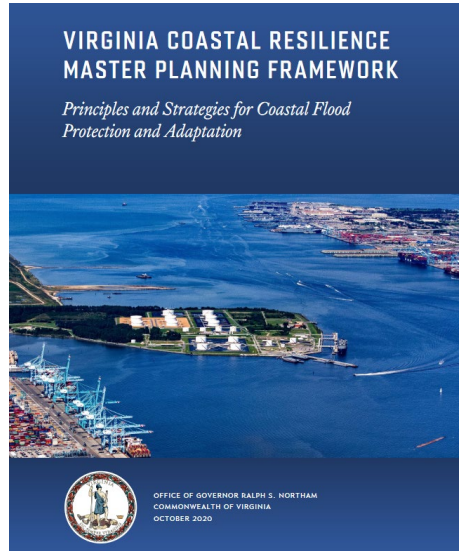
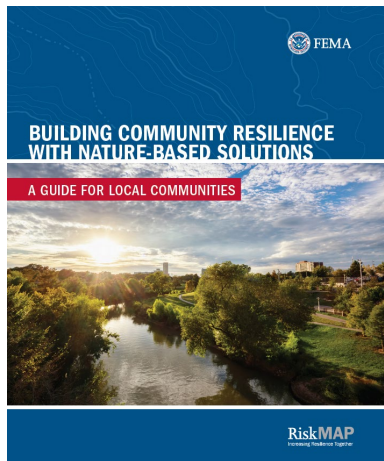
- When restoring wetland habitat, living shorelines have the highest pollution reduction value.
- Localities, Commonwealth and Federal grants provide funds in exchange for TN, TP, TSS reductions in local waters and the Bay.
- Partnerships with nonprofits, VCAP provide cost-share, SEAS and VIMS project insight & guidance



Resilience: Living shorelines as part of the nature

Coastal Communities

-based solution for



“Communities that invest in nature-based approaches to reducing disaster risk can save money, lives, and property in the long-term AND improve quality of life in the short term.”
FEMA

*If Tidal Marsh Can't Migrate - By 2080: 172,000 acres lost (89%)
Additionally, a loss of 38% of existing dunes and beaches (3,800 acres) by 2080*