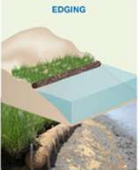
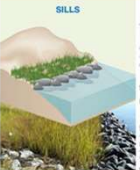




Essential Skills for Living Shorelines for Virginia General Permit Group 1 or 2

LIVING SHORELINE

SAGE Guidance Document

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.

CBLP SHORELINES
Certificate Course

CHESAPEAKE BAY
Landscape Professional

Living Shoreline Collaborative

CBLP-Shorelines Day 1 of 4 Sept. 7, 2023

WETLANDS WATCH

1

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!

CHESAPEAKE BAY
Landscape Professional

Living Shoreline Collaborative

WETLANDS WATCH

2

Introductions

CBLP

- Beth Ginter, Executive Director of the Chesapeake Conservation Landscaping Council (CCLC)
- Shereen Hughes, Assistant Director of Wetlands Watch and VA CBLP Coordinator Co-Coordinator
- Stacie McGraw, Green Industry & Infrastructure Project Manager, Wetlands Watch, VA CBLP Co-Coordinator
- Jason Swope, MD-DC-WV CBLP Coordinator

Today's Instructors/Speakers

- Karen Duhring, VIMS
- Aaron Wendt, DCR SEAS
- Rachael Peabody, VMRC
- Autumn Crawford, US AOE
- Mary Mantey, ERP
- Ellen Grimes, CRM
- Jim Cahoon, Bay Environmental
- Justin Shafer, City of Norfolk

CHESAPEAKE BAY
Landscape Professional

Living Shoreline Collaborative

WETLANDS WATCH

3

Why CBLP-Shorelines



Living Shoreslines
A guide for property owners and managers on how to protect and enhance their shoreline property.

WVMS
West Virginia Marine Science Center

CHESAPEAKE BAY
Landscape Professional

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




4



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



Lower James River Watershed Map




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

CONSORTIUM PARTNERS:



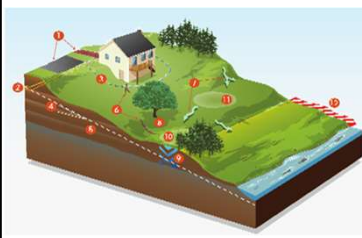


Program Hallmarks – We Teach:

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

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Whole Site Evaluation



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



- 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

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Program Development - Research

	Team Feedback	Contractor Interviews
Audience	Contractors Homeowners	Homeowners Government staff/boards
Training Priorities	Permits & Regs Site Eval Design Maintenance	Permits & Regs Sea Level Rise Runoff Mitigation
Resources & Tools	Accurate cost comparisons Cost share programs Referral/Qualified Pros Database Realistic benefits/limitations Info for homeowners	Design guidelines Case Histories and Sample plans Realistic cost info Referral/Qualified Pros Database Property owner resources Technology for site eval & plan prep



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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
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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







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Common Knowledge of Living Shoreline Implementation Best Practices & Resources

Site Feasibility & Evaluation	Design	Permitting	Construction	Maintenance Monitoring Management
Meet Client & ID Problem	Select Solution	Complete & Submit JPA	Pre-Construction	Establishment
Site Assessment	Conceptual Designs	Part 5 CBPA Info	Feasibility, Site	Typical Regular Tasks
Consult Technical Advisors & Regulators	Consult Client, Contractor	Site Visits & Meetings w/ Regulators & Boards	Visits, Consults, Permits	Management
Consider Solutions	ID Impacts & Permits Required	Address Comments & Conditions for Approval	Site Prep, Protection Materials	Monitoring & Verification
	Develop final drawings for Permit Application		Construction & Inspections	




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CBLP-Shorelines Workshop Materials

Key References

- VIMS Living Shoreline Design: Overview
- VIMS Online Shoreline Management Handbook
- VMNC Wetlands Guidance & Wetlands Regulations
- Incorporating Ditches into Living Shorelines
- Key Reference Guide

Worksheets & Handouts

- Developing Analysis Form
- Developing Analysis Instruction Guide
- Site Assessment Terms
- Permitting Terminology
- Case Studies
- Joint Permit Application
- Criteria for VMNC General Permits for Group 1 and Group 2
- Maintenance Plan Templates
- Monitoring Terminology

Videos

- Intro to CBLP
- Why Living Shorelines
- Living Shorelines 101
- Regulatory Context of Shorelines
- Designing for Sea Level Rise
- Planting Considerations for Living Shorelines

Pre-Class Assignments

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

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

[illegible]

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Day 1 Overview

- Introductions, Background
- Breakout Session
- Problem Solving and Importance of Site Evaluation
- Living Shorelines as BMPs and DCR SEAS
- 10 minute Break
- Navigating the Permitting Process Federal, State & Local
- Regulatory Panel Q&A
- Design, Construction, & Maintenance Considerations
- 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.



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Quick Breakouts

Your Name

Affiliation

Living Shoreline

Interest



Photo Source: Wetlands Watch
Living Shoreline by:






CHESAPEAKE BAY
Living Shoreline
Landscape Professional



Living Shoreline
Collaborative

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Pre-Class Work

Intro to CBLP video
Regulatory Context of Shorelines (~19 min) 23:40 (Joe Rieger, ERP)
Why Living Shorelines (~9 min) 11:50 (Barbara Gavin, ERP)
Living Shorelines 101 , (Karen Duhring, VIMS)
VIMS Living Shoreline Design Guidelines Shoreline Management Handbook VMRC Wetlands Guidance and Regulations JPA Permit Application
https://certified.cblpro.org/cblp-shorelines-workshop-materials/

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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>



Living Shoreline

- Natural buffer to reduce erosion
- Allows marsh migration
- Adaptable to sea level rise
- Wildlife access to water
- Provides critical fish and wildlife habitat
- Improves water quality





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Living Shoreline
Landscape Professional



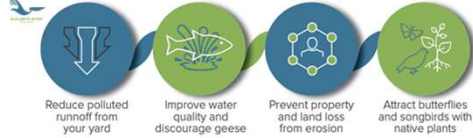
Living Shoreline
Collaborative

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Why Living Shorelines?

Living Shoreline Benefits for Property Owners, Water Quality, Nature

HOW DOES A LIVING SHORELINE BENEFIT YOU?

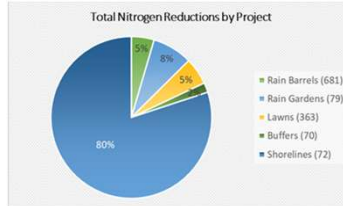


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Why Living Shorelines? BMPs & Water Quality

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



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Resilience: Living shorelines as part of the nature-based solution for Coastal Communities



"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

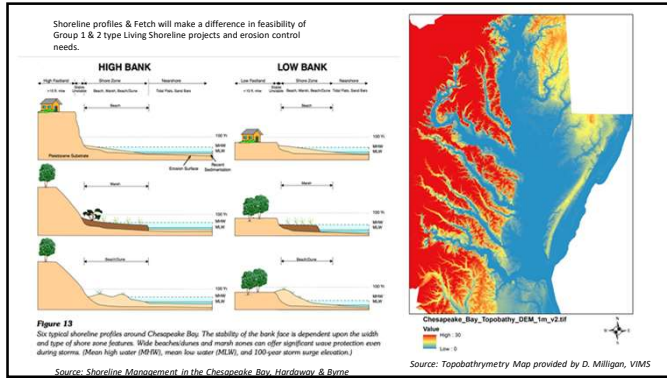
*If Tidal Marsh Can't Migrate - By 2080: 172,000 acres lost (89%)
Additionally, a loss of 38% of existing dunes and beaches (3,800 acres) by 2080*



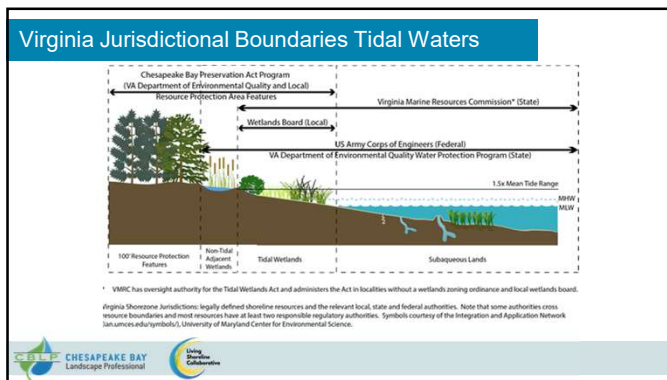
Slide adapted from Karen Duhring and VIMS presentation



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