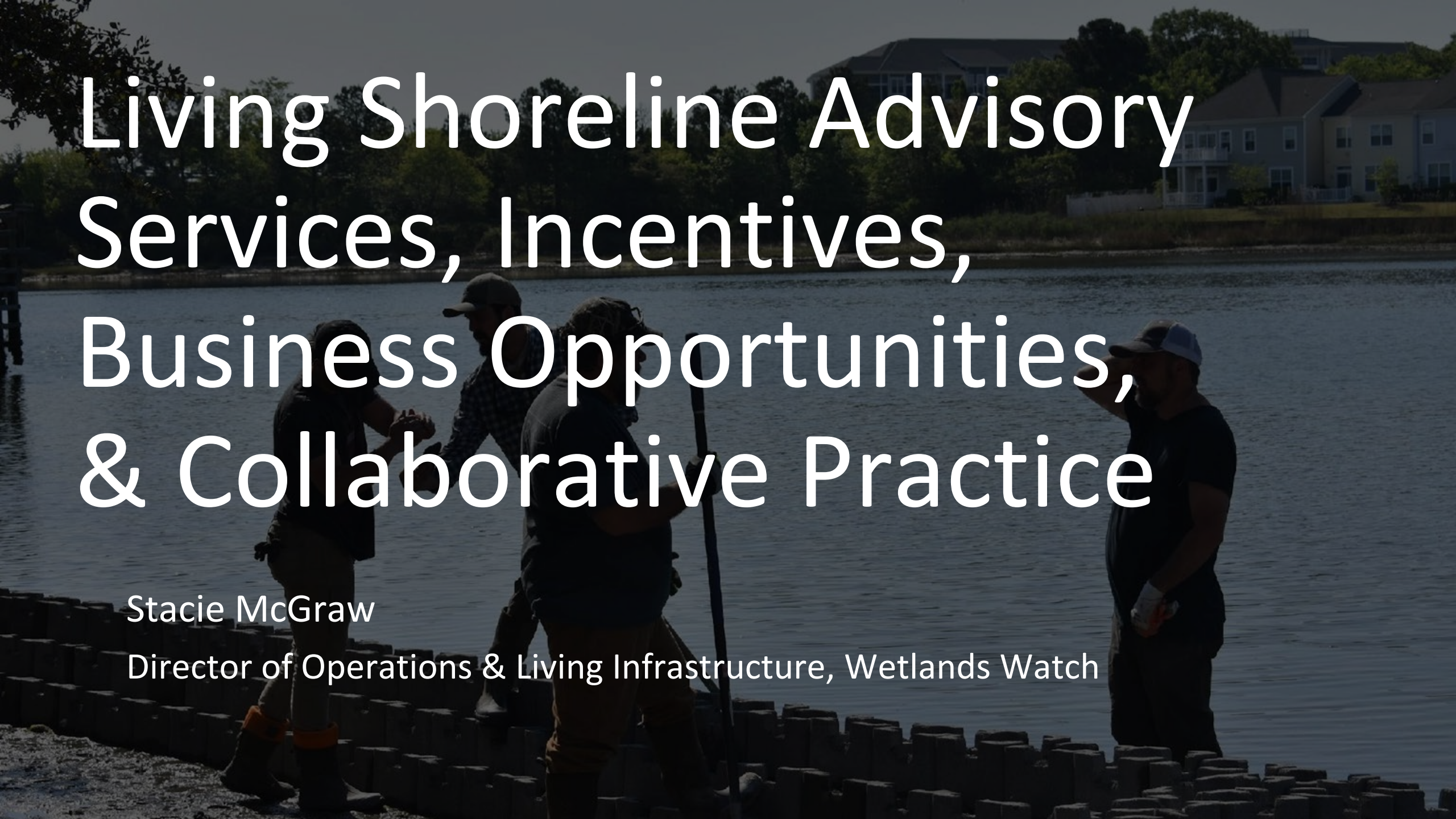


A group of four people are working on a shoreline. They are standing on a series of large, dark, rectangular concrete blocks that form a low wall or barrier. The person on the far left is wearing a dark shirt and light-colored pants. The person next to them is wearing a plaid shirt and a cap. The person in the center is wearing a dark shirt and light-colored pants. The person on the far right is wearing a dark shirt, a cap, and a backpack. They are all looking towards the water. In the background, there is a body of water and some houses on a hill.

Living Shoreline Advisory Services, Incentives, Business Opportunities, & Collaborative Practice

Stacie McGraw

Director of Operations & Living Infrastructure, Wetlands Watch

Living Shorelines = Team Effort

- Client
- Designer/Permitting Agent
- Contractor
- Advisory Services
- Funders/Cost Shares
- Regulators - Local, State, Federal
- Industry mentors or subcontractors

Advisory Services

Virginia Department of Conservation and Recreation Shoreline Erosion Advisory Service (SEAS)

Services: free, unbiased technical assistance including site investigations, written advisory reports, design and plan reviews, construction inspections, and guidance on available financial incentive programs.

Who Qualifies: private property owners (residential and agricultural), localities, and state and federal agencies experiencing shoreline or streambank erosion across Virginia

Advisory Services

Virginia Institute of Marine Science (VIMS)

Codified scientific institute to the VMRC

Office of Research & Advisory Services

- 4 full time scientists to advise permit writers on the scientific evaluation of projects.
- Will write advisory reports on projects when requested.
- VIMS reports are highly weighted during permit reviews and public hearings.
- Best Available Science and LS Feasibility Determination

Incentives & Opportunities: VCAP

Organization: Virginia Association of Soil and Water Conservation Districts; administered by individual districts

What is Provided: Financial reimbursement of 80% of the total costs, up to \$30,000

Who Qualifies: Public, private, non-profit, and commercial landowners within a participating district. Eligible shorelines must have no more than 2-mile fetch distances in any direction, and any structures onsite must be at least three years old

Contact: Your local district

Lower James SWCDs



Colonial SWCD: James City, Charles City

James River SWCD: Prince George

Peanut SWCD: Surry, Isle of Wight, Suffolk

Virginia Dare SWCD: Chesapeake, VA Beach

No District: Newport News, Hampton, Norfolk, Portsmouth (MOUs)

Opportunities: Friends of the Rappahannock and York River Steward

Living Shorelines on Rappahannock and York

- **Additional funding available to offset out of pocket expenses for VCAP living shorelines projects**
- Reimbursement of 50% of out of pocket expenses up to \$10,000
- Spotsylvania, Stafford, King George, Caroline, Essex, King William, King & Queen, Mathews, Middlesex, Gloucester, Westmoreland, Richmond, Northumberland and Lancaster counties
- Contacts:
Rappahannock - Brent Hunsinger
brent.hunsinger@riverfriends.org
York - Leslie Anne Hammond
leslianne.hammond@yorkriversteward.org



Opportunities: Elizabeth River Project

Living Shorelines on the Elizabeth River

- **ERP is actively looking for subcontractors to construct living shorelines**
- Projects mostly designed & permitted by ERP, subcontractors needed for install
- Projects cost shared to ease cost burden on landowners – tell your clients!
- Contractors with all levels of training welcome – Shadow an installation, volunteer, become familiar with techniques



Opportunities: James River Assoc.

Living Shorelines on the Lower James

- **JRA is looking for contractors!**
- Living shorelines are designed and permitted by JRA staff.
- Need contractors to do installations and maintenance on existing projects!
- Grant funded cost-share program for homeowners
- We will send out an RFQ soon
- Contact: Ryan Walsh
rwalsh@thejamesriver.org
757-703-0671



LRNow Living Shoreline Opportunities



Little Haven 2012



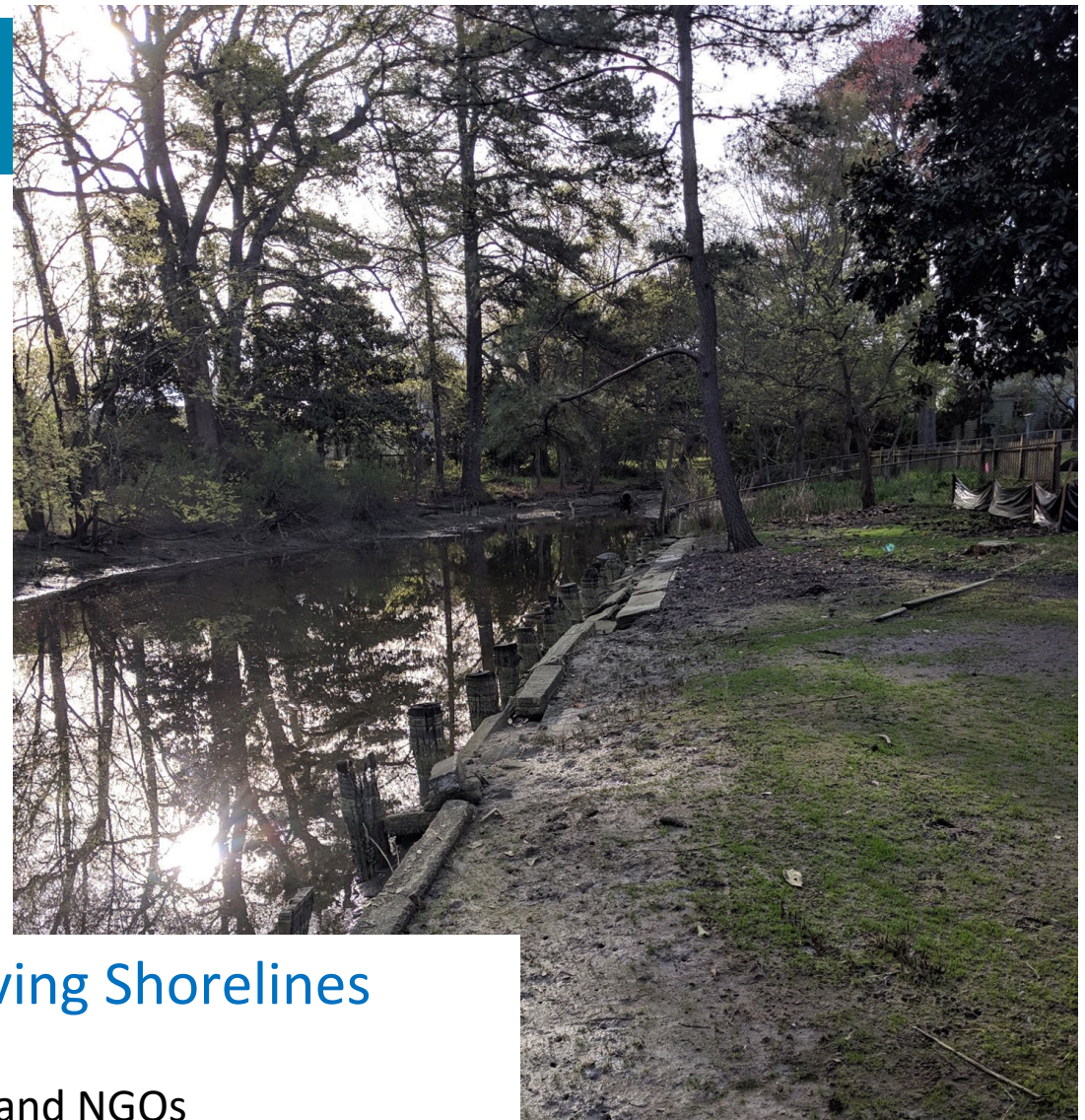
Little Haven 2014

- LRNow coordinates 1-3 residential living shorelines in Virginia Beach each year
- Subcontract for design and installation
- Funding assistance from VCAP, VBCAP
- Volunteer labor to further reduce cost to homeowners
- Contact: Vince Bowhers,
Vince@LRNow.org 757-773-1636

A scenic view of a body of water, likely a lake or river, with tall grasses and reeds growing along the shoreline. In the background, a modern house with large windows and a balcony is visible, surrounded by trees. The water reflects the sky and the surrounding vegetation.

Business Opportunities

Advise & Manage



Evaluate the Site, Educate the Client, Recommend Living Shorelines

Look for need (failing bulkheads, eroding shorelines)

Vegetation assessment & management plan for shoreline contractors and NGOs

Sustainable and green infrastructure practices to reduce erosion (buffers, rain gardens, etc.)

Advise & Manage

ID best approach for your client & site

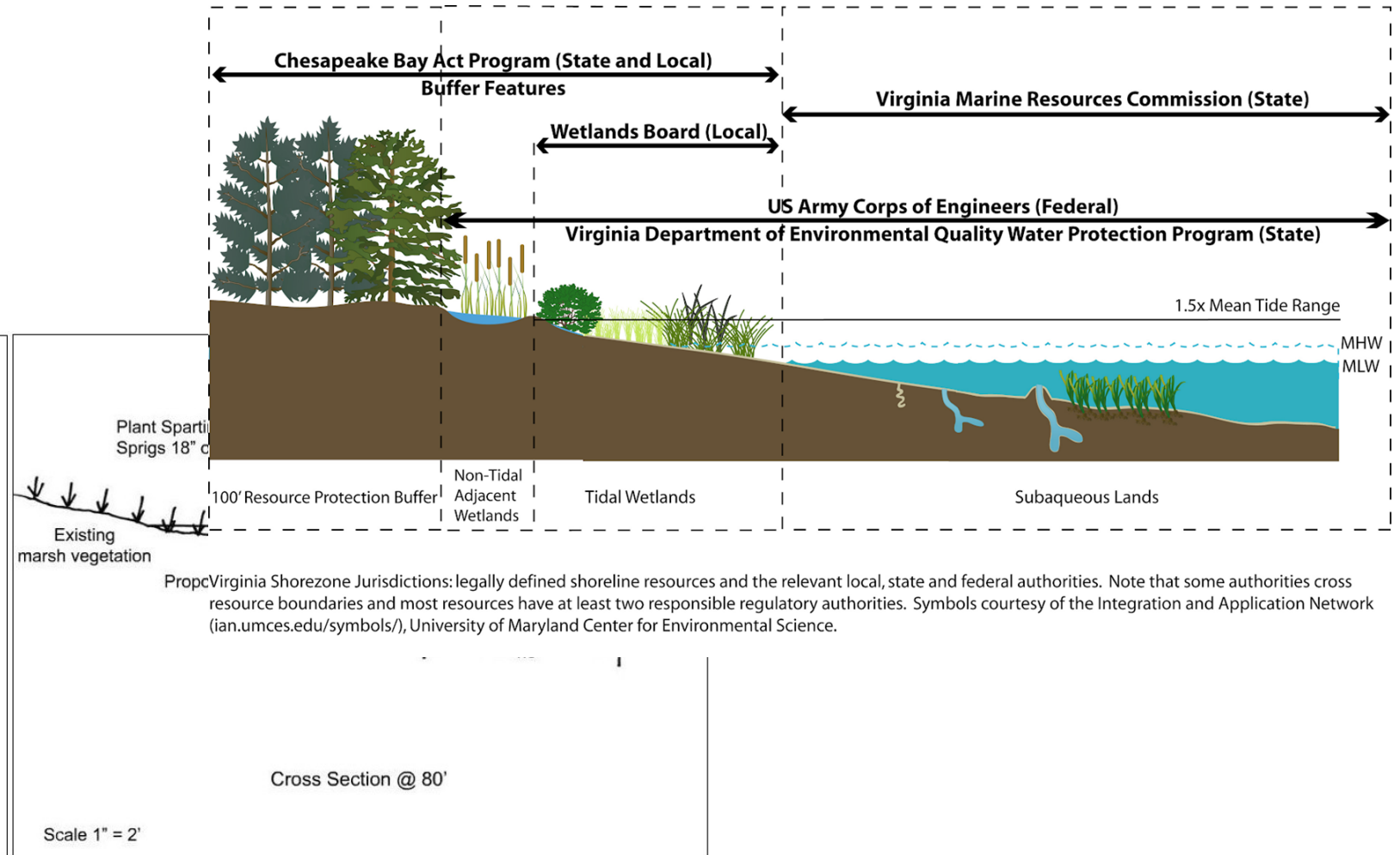
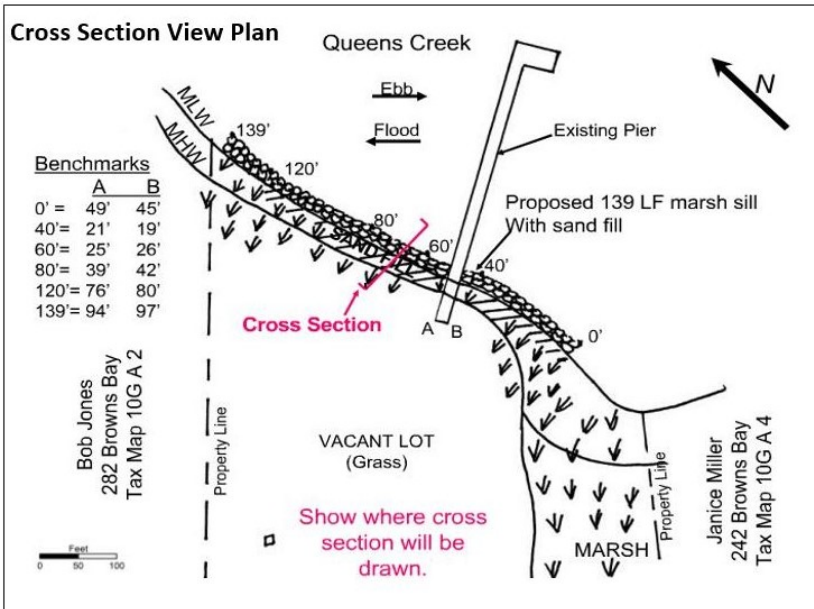
Research & connect with funding sources

Connect client with technical experts & subcontractors



Design, Drawings, Permitting

Start with low energy site
Partner with other pros



Planting Design



Glasswort -
Has succule
with scale-li
4-20 inches
July to Nov



Marsh hibiscus - *Hibiscus moscheutos*.
showy white
and alternat
up to 12 ft. a
to Septemb



Marsh mallard - *Hibiscus virginica*. Has
hibiscus-like
alternate lea
dense hairs
and blooms
August.

Detailed View



Salt Meadow Plants -
found in areas of periodic
inundation

Saltmeadow hay - *Spartina patens*. Leaves are in-rolled not 2-ranked with densely overlapping spikelets borne only one side of axis. It grows from 1-3 ft. and blooms from July to September.



Salt grass - *Distichlis spicata*. Has a terminal spike inflorescence and 2-ranked leaves. It grows 8-16 inches and blooms from July to September.



Sea lavender - *Limonium spp.* Has basal leaves and lavender flowers that bloom from July to October. Plant grows up to 3 ft.



Salt marsh aster - *Aster tenuifolius*. Has alternate, flexuous linear leaves and pale purple, blue or white daisy-like flowers that bloom



conspicuous white flowers in fall. Grows up to 8 ft and blooms from September to October.



Switch grass - *Panicum virgatum*. Has straw-colored panicle inflorescence. It grows up to 3 ft. and blooms from July to September.



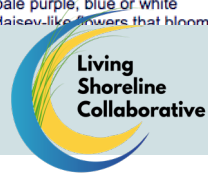
Seaside goldenrod - *Solidago sempervirens*. Has dense clusters of yellow flowers and alternate lance-shaped leaves. It grows from 4-5 ft. and blooms from August to October.



Marsh elder - *Iva frutescens* - has opposite fleshy, lance-shaped toothed leaves, with small greenish white flowers that are not prominent. It grows 2-6 ft. and blooms in August to October.



CHESAPEAKE BAY
Landscape Professional



**Living
Shoreline
Collaborative**

Integrated Shoreline/Upland Design

Enhance Water Views
Restore Buffer
Provide Access



Provide Materials, Labor, Equipment

- Plants
- Sand
- Coir logs
- Rock
- Fiber mats
- Goose fencing
- Wooden stakes
- E&S
- Site prep
- Aquatic pesticide applicator



Images: Elizabeth River Project & Bay Environmental

Monitor & Maintain



Images: Wetlands Watch
Elizabeth River Project's
River Star Homes Living Shorelines

Living Shoreline Outreach

Living Shorelines

Better for property owners and the environment:
Virginia's preferred approach for shoreline erosion management



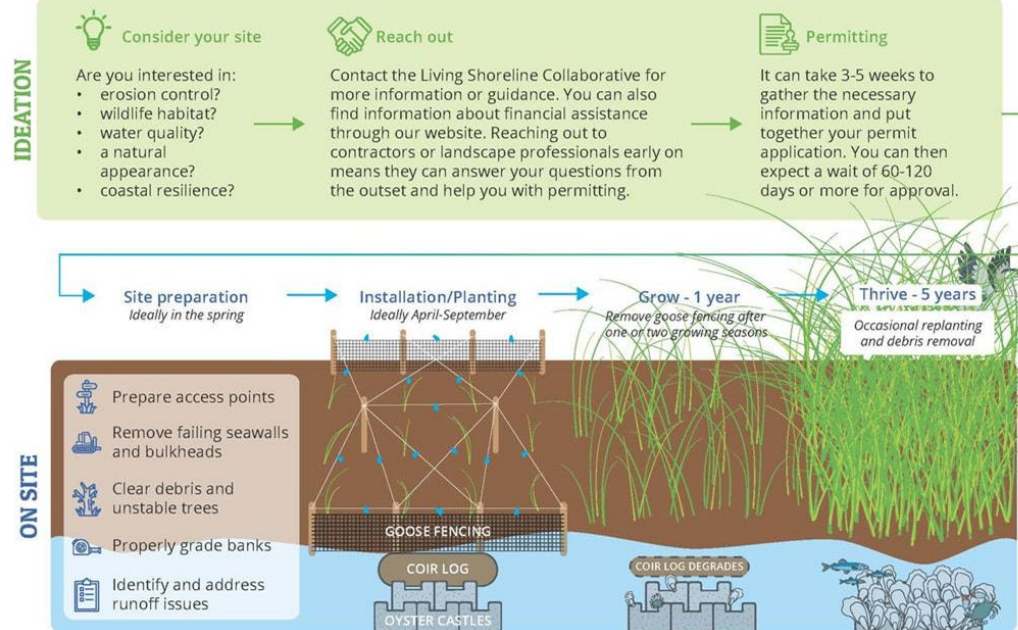
VIMS | **WILLIAM & MARY**
VIRGINIA INSTITUTE OF MARINE SCIENCE
CENTER FOR COASTAL RESOURCES MANAGEMENT
... researching shorelines
for over fifty years



Living Shorelines

KEY REFERENCES:
VIRGINIA

How long does it take to grow a living shoreline?



Bay-Wide Resources
Tool Kit
Materials
Talking Points
Various Audiences

LIVING SHORELINE OUTREACH

Chesapeake Bay Program

IMPLEMENTATION PLAN



Professional Standards of Conduct, How to Find a Pro

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
ba8237/1570547475105/Contractor+List+For+Website.pdf](https://static1.squarespace.com/static/544916c3e4b09edc336b555e/t/5d9ca712618dd9479cba8237/1570547475105/Contractor+List+For+Website.pdf)

- **Vendors**

[static1.squarespace.com/static/544916c3e4b09edc336b555e/t/5d9ca73a618dd9479c
ba8552/1570547514988/Vendor+List+for+Website.pdf](https://static1.squarespace.com/static/544916c3e4b09edc336b555e/t/5d9ca73a618dd9479cba8552/1570547514988/Vendor+List+for+Website.pdf)

SELECT CONTRACTORS BY STATE

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?

- *Ask for a copy of their license and contact the issuing authority to ensure it is current and in good standing.*

What types of insurance do you carry?

- *General liability insurance – ask for a copy of contractor's general liability insurance certificate.*
- *Workers' compensation insurance – ask for copy of current worker's compensation certificate.*

What kind of written warranty or guarantee do you offer?

How do you typically communicate with your clients about projects and keep them informed along the way?