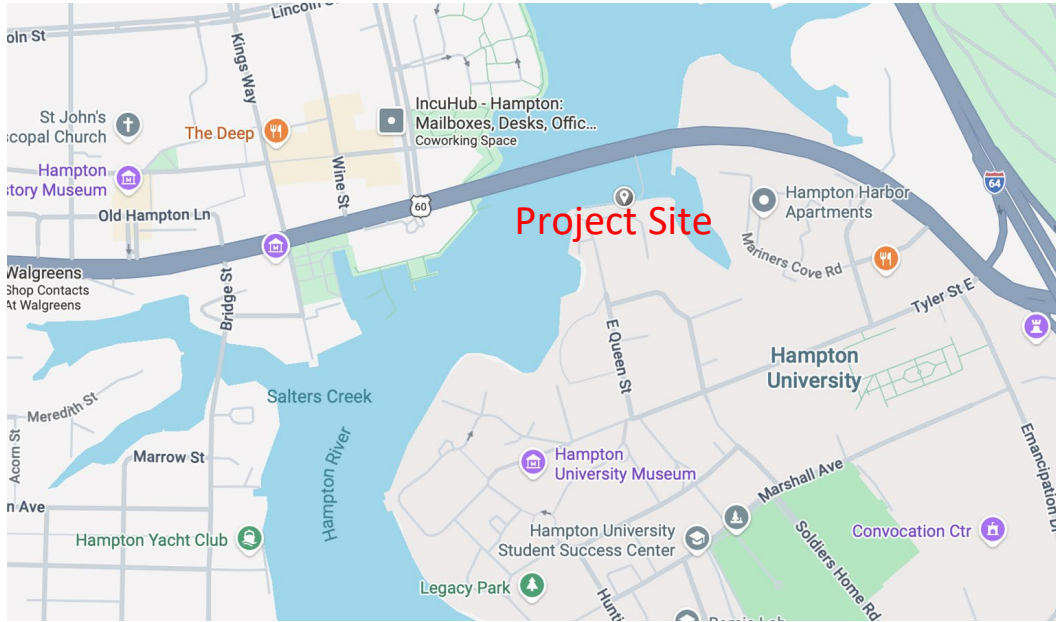


The Site, Desktop Exercise, Prep for Day 2



Site Introduction



Photo Credit: Sue Mangan



CHESAPEAKE BAY
Landscape Professional



Living
Shoreline
Collaborative



**CHESAPEAKE BAY
FOUNDATION**
Saving a National Treasure

Site Introduction

Current Site Uses

- Shoreline Clean-up by students



Site Introduction

Site Goals

- Beautification
- Biodiversity
- Research



Site Introduction

CBLP-HU LSC Course

- Students plan to design shoreline



Pre-Class Work for Day 2

- Review & be familiar with VMRC Group 1 and Group 2 General Permits
- Using the Desktop Analysis Guide, complete the Desktop Analysis Form for the area outlined in red on the Base Map. Bring a printed copy of the form to class.

Pre-Class Assignments

Day One	
Day Two	• Review & be familiar with VMRC Group 1 and Group 2 General Permits • Using the Desktop Analysis Guide, complete the Desktop Analysis Form for the area outlined in red on the Base Map. class. Google Maps link to site.
Day Three	
Drawing & Permitting Exercise	

Pre-Class Work for Day 2

DESKTOP ANALYSIS	Shore orientation:	N NE NW E W S SE SW								Shore Length:	ft		Shore Width:	ft					
	Average Fetch:	Very High (> 15 miles)				High (5-15 miles)		Medium (1-5 miles)		Low (0.5 - 1 mile)		Very Low (< 0.5 miles)							
	Longest Fetch:	mi		Direction:				Shore Morphology:	Pocket		Straight		Headland		Irregular				
	Depth Offshore:	ft		Nearshore Morphology:				Bars		Tidal Flats		Other:							
	Tide Data	MLW:		MHW:		MTL:		Mean Tide Range:				1.5x Mean Tide Range: (calculate using MTR)							
	Storm Surge:	10 yr				50 yr				100 yr				Average Salinity:	PSU				
	Expected SLR:	10 yr				20 yr				50 yr				Saltwater		Freshwater			
	Erosion Rate:	☐ Very high accretion (> +10 ft/yr) ☐ High accretion (+10 to +5 ft/yr) ☐ Medium accretion (+5 to +2 ft/yr) ☐ Low Accretion (+2 to +1 ft/yr) ☐ Very Low Accretion (+1 to 0 ft/yr)						☐ Very High Erosion (> -10 ft/yr) ☐ High Erosion (-5 to -10 ft/yr) ☐ Medium Erosion (-2 to -5 ft/yr) ☐ Low Erosion (-1 to -2 ft/yr) ☐ Very Low Erosion (0 to -1 ft/yr)						Is Submerged Aquatic Vegetation (SAV) present?		YES		NO	
	Design Wave:	Height				Period				Proximity to Navigation Channel:									
	Note easements or utilities located in the project area:																		
Notes:																			

Pre-Class Work for Day 2

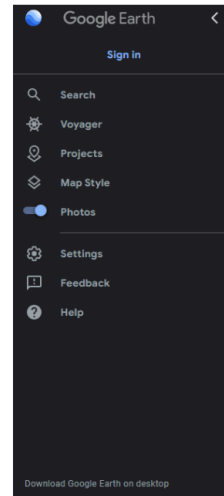
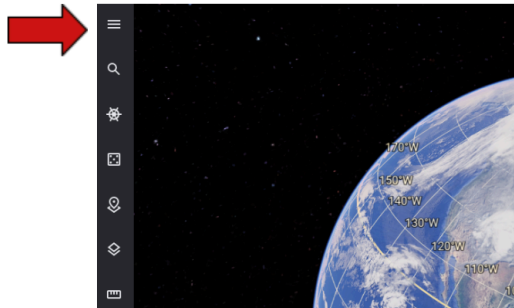


Desktop Analysis Guide Site Assessment

This instruction guide is intended to assist in conducting a desktop analysis for a potential living shoreline project. Use this guide to complete the Desktop Analysis portion of the Site Evaluation Form. Refer to the VIMS *Living Shoreline Design Guidelines* key reference for a more detailed discussion of terminology and the site assessment process. Additional guidance can also be found in [this VIMS PowerPoint](#). For convenience, the analysis criteria in this guide are organized according to the digital tool used and may not be in the exact order found on the evaluation form. *Note that sample map images may not correspond to the project site being evaluated.*

Before you begin:

1. Download the free version of Google Earth, available [here](#). Click the hamburger icon (3 stacked lines) in the top left corner, then click "Download Google Earth on desktop" at the very bottom of the menu.



Living Shoreline Design Guidelines for Shore Protection in Virginia's Estuarine Environment



Virginia Institute of Marine Science
William & Mary
Gloucester Point, Virginia

September 2021

Fetch: Shoreline Orientation & Measuring

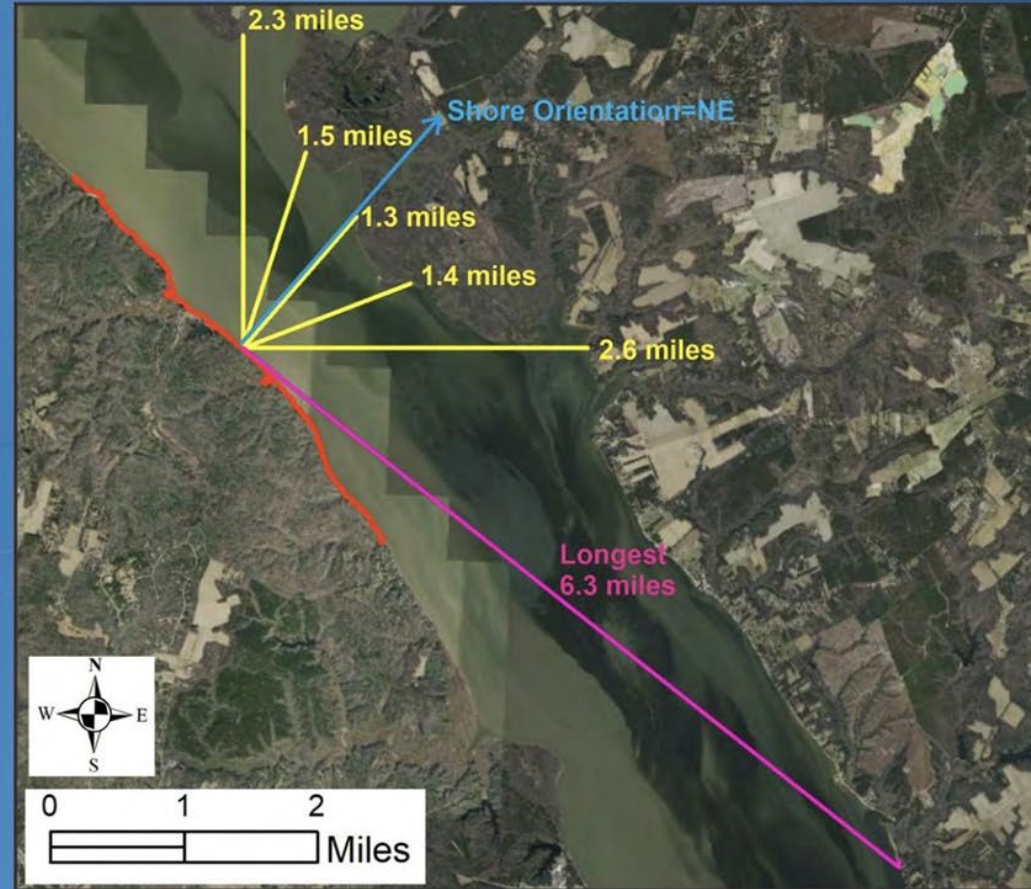
Fetch

- Length of water over which a given wind can blow without obstruction.
- It is a proxy measure for wind/wave energy impacting the shoreline.
- The larger the fetch, the more energy potentially impacting the shoreline.

Longest Fetch
Purple line

Average Fetch measure 5 yellow
arrow vectors (45 deg. Apart on
either side of the shore orientation)
and take an average

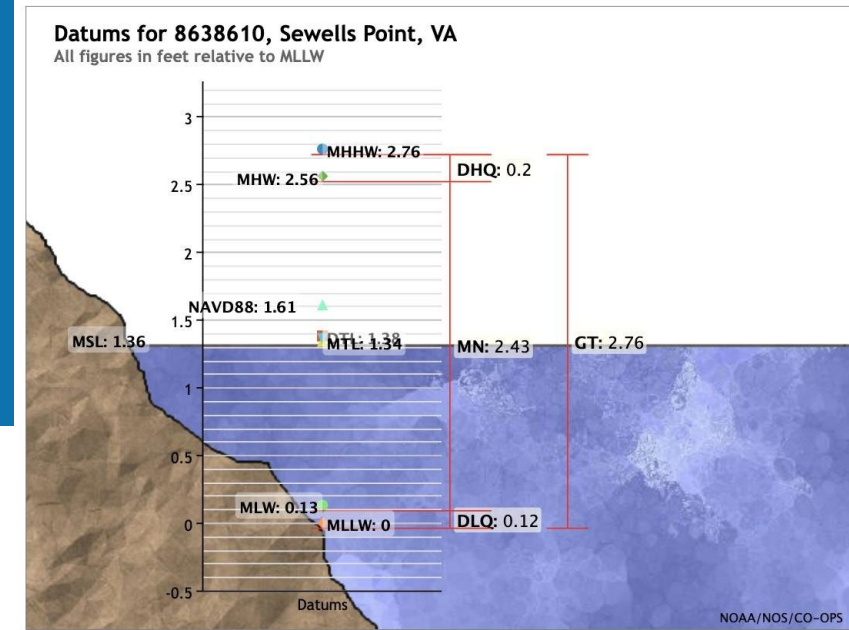
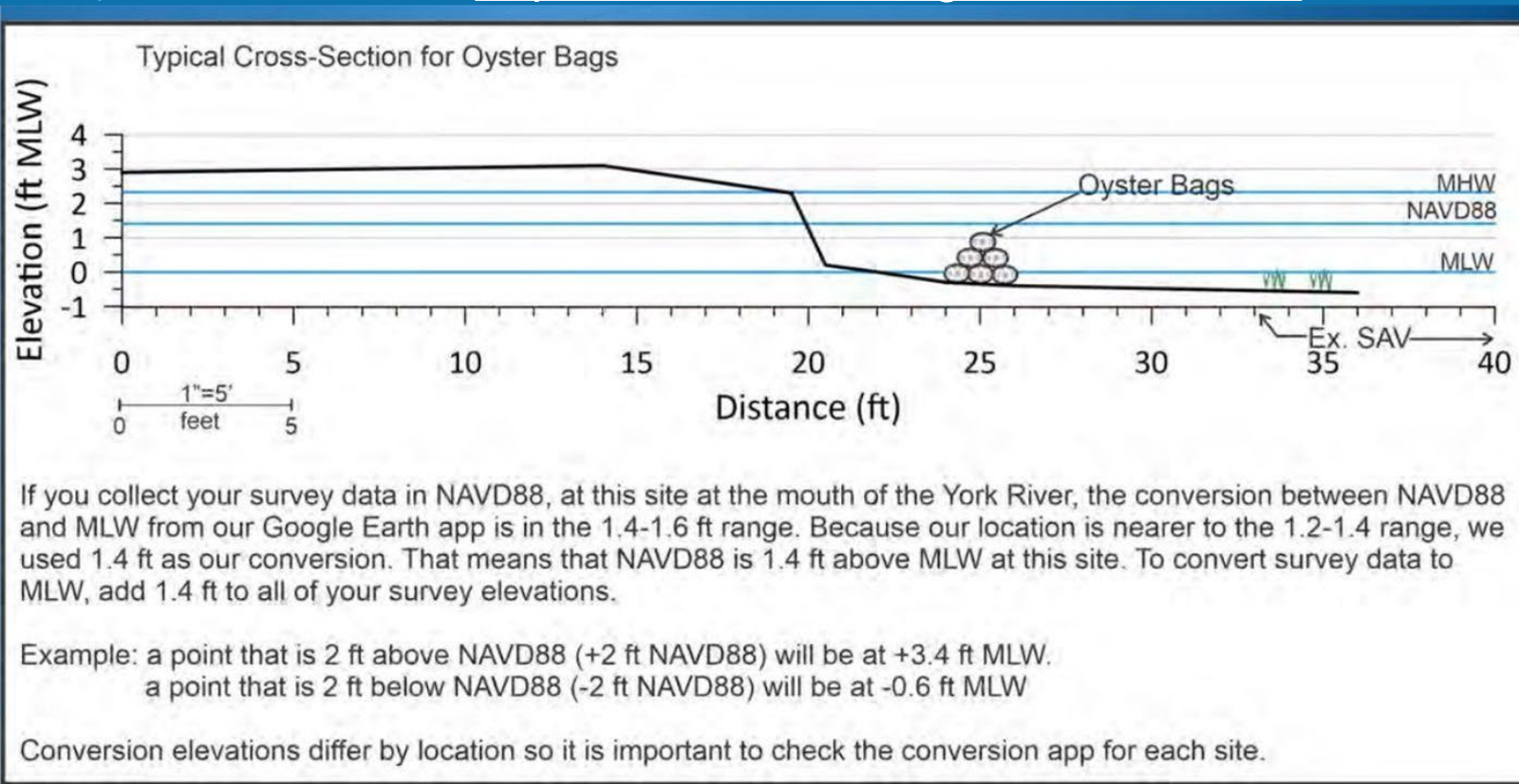
Notes: If a site faces more than 1
direction, you may need more
than 1 fetch calculation.



VIMS | **WILLIAM & MARY**
VIRGINIA INSTITUTE OF MARINE SCIENCE

Choose your datum, be consistent

- 1) VIMS - Mean Low Water (MLW)
- 2) CORPs - Mean Low Low Water (MLLW)
- 3) Land Topography - NAVD88
- 4) NOAA VDATUM <https://vdatum.noaa.gov/vdatumweb/>



Showing datums for

8638610 Sewells Point, VA

Datum

MLLW

Data Units

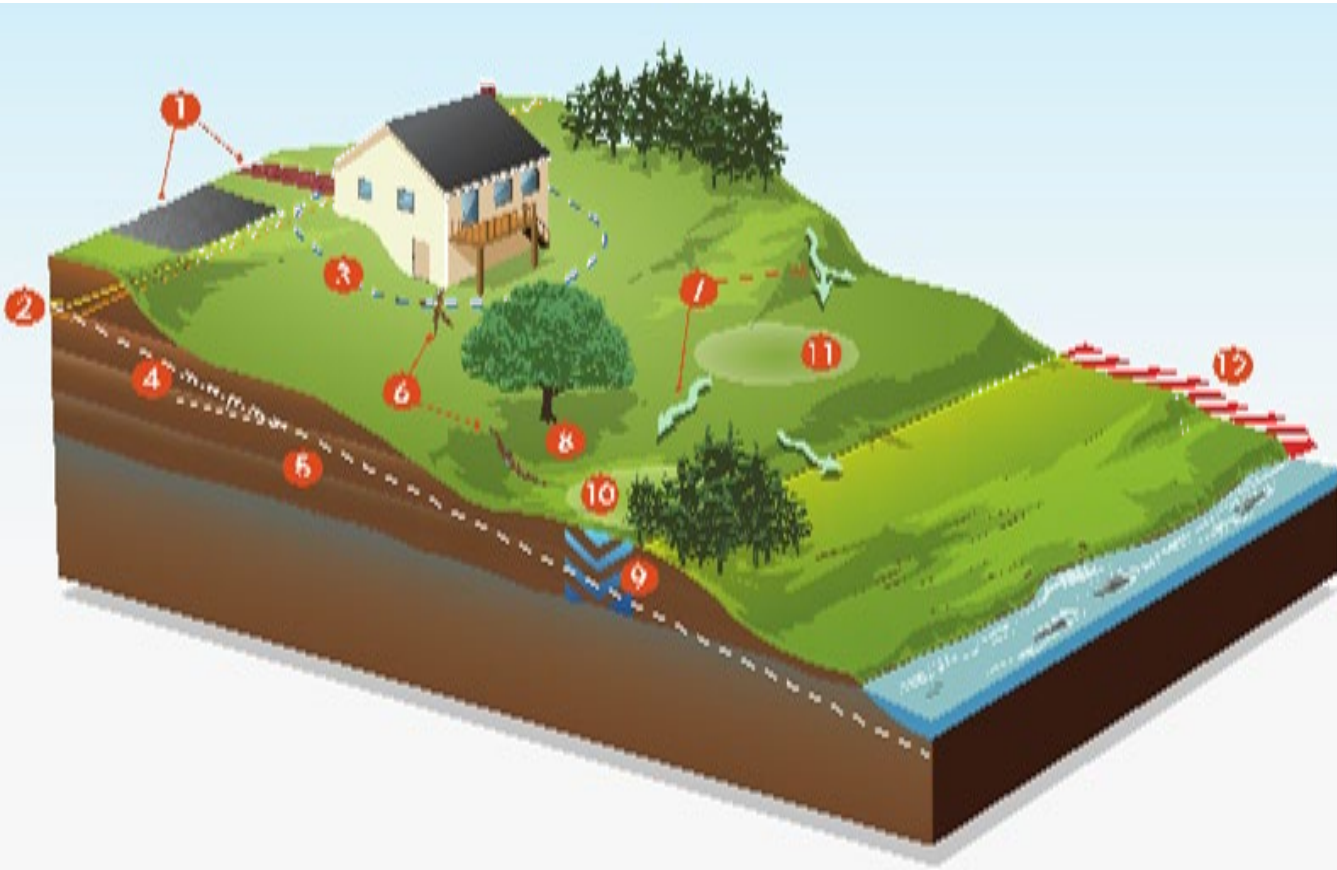
☒ Feet

☐ Meters

Epoch

☒ Present (1983-2001)

Get to know the whole site & surrounding area



- 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

Day 2: Field Assessment, Design, Construction Feasibility

Arrive at 9:15 for check in, coffee

September 22 | Day 2 | 9:30am - 4:00pm

Virginia Air & Space Science Center
600 Settlers Landing Rd
Hampton, VA 23669

Air & Space is closed to the public on Tuesdays -
enter through main entrance 9 - 9:30.

Parking - City garage and lot across the street

Leaving class - Lane restrictions on Settlers Landing
to I-64 east.

What to Bring

- You will be given a notebook with printed materials
- We will be outside, may get wet and dirty. Please dress accordingly with waterproof footwear. *Bring a change of clothes*
- Note taking supplies (clipboard recommended) and print out presentation notes if preferred
- Reusable water bottle
- Work gloves
- Day 3: We will also be sketching site design ideas in class. Basic drawing supplies will be provided; participants are welcome to bring personal supplies if they prefer.