

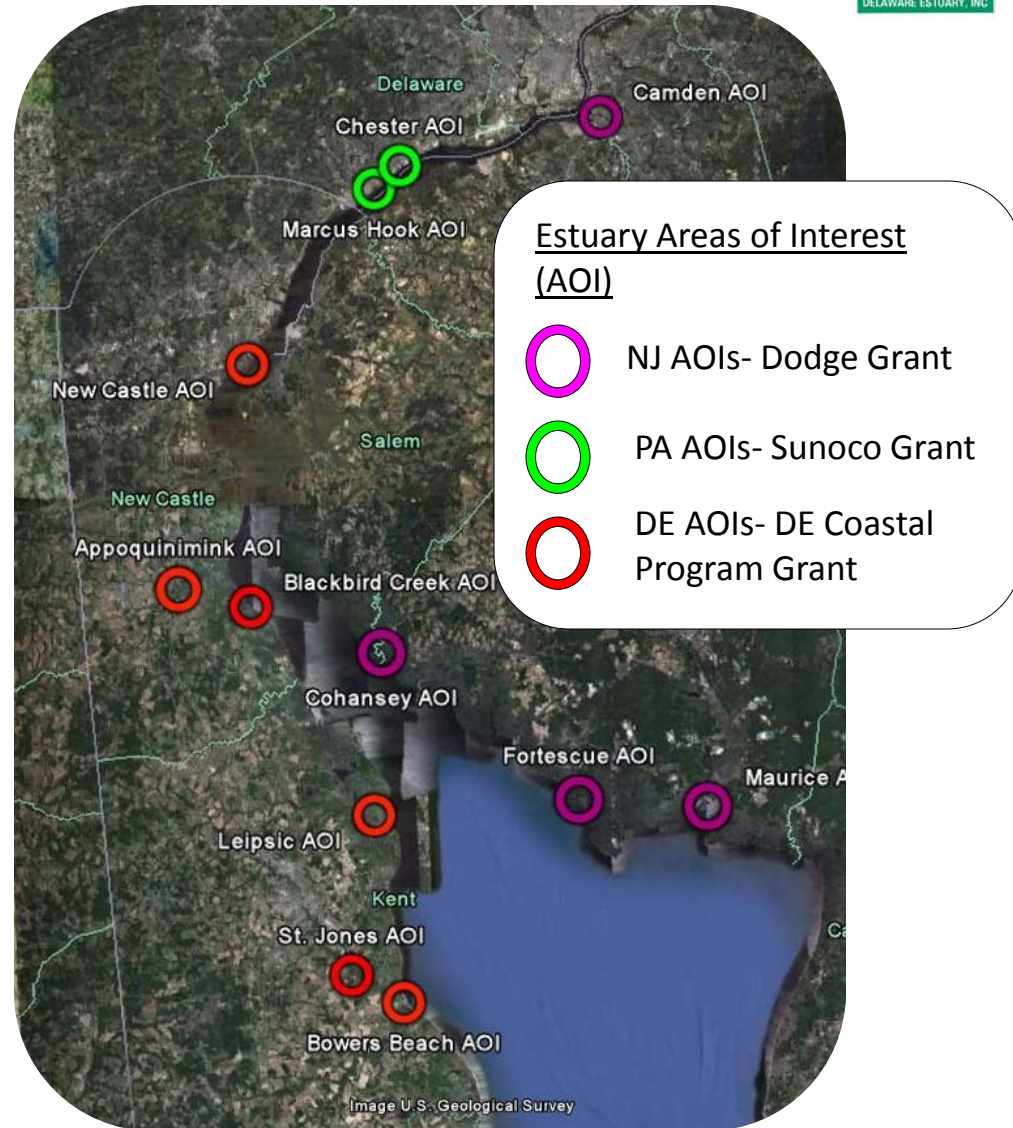
Delaware Living Shoreline Project Possibilities

Delaware Coastal Programs, Partnership for the
Delaware Estuary, Rutgers' Haskin Shellfish
Research Laboratory

Living Shorelines Planning Project



- ▶ Inventory of Types
- ▶ GIS Analysis in Areas of Interest
- ▶ Selection of Potential Project Sites
- ▶ Field Reconnaissance
- ▶ Conceptual Plans



GIS Analysis Completed

- ▶ Combined GIS data to contain information for order criteria
- ▶ Physical and environmental metrics were used within AOI's
 - Fetch and potential for traffic as proxy for energy
 - Shore morphology
 - Substrate type
 - Salinity regime



Shoreline Suitability DE



New Jersey



Site Reconnaissance

Underway in 3 States



Site Assessment Report

Completed December 2011

Includes:

- Most suitable sites ranked
- Contour maps
- Vegetation and substrate maps
- Energy analysis– fetch, boat wake, etc.
- Shoreline erosion/stability

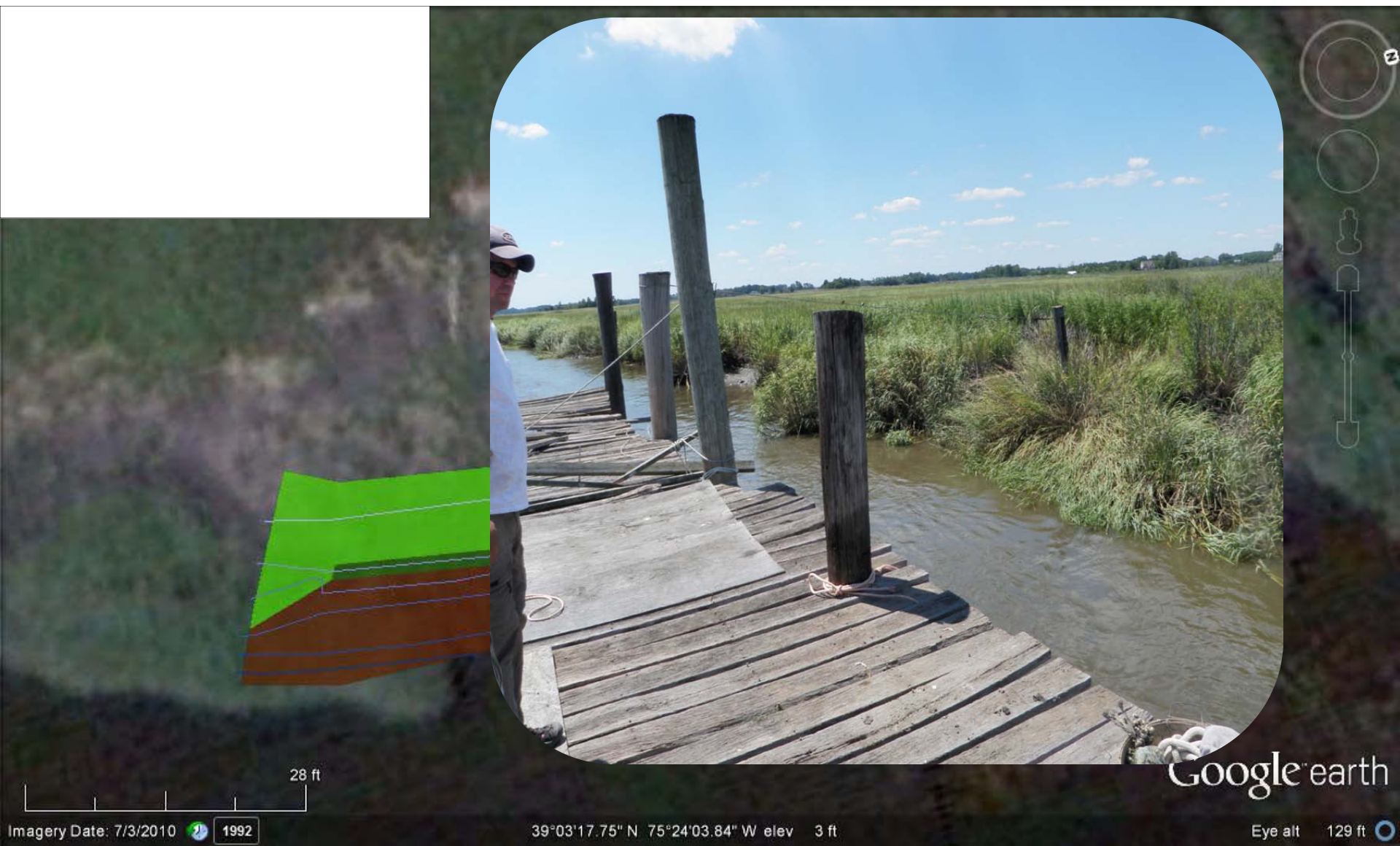
#1 Ranked DE LS Site: Murderkill River



Murderkill 1: Vegetation and Contour



Murderkill 2: Vegetation and Contour



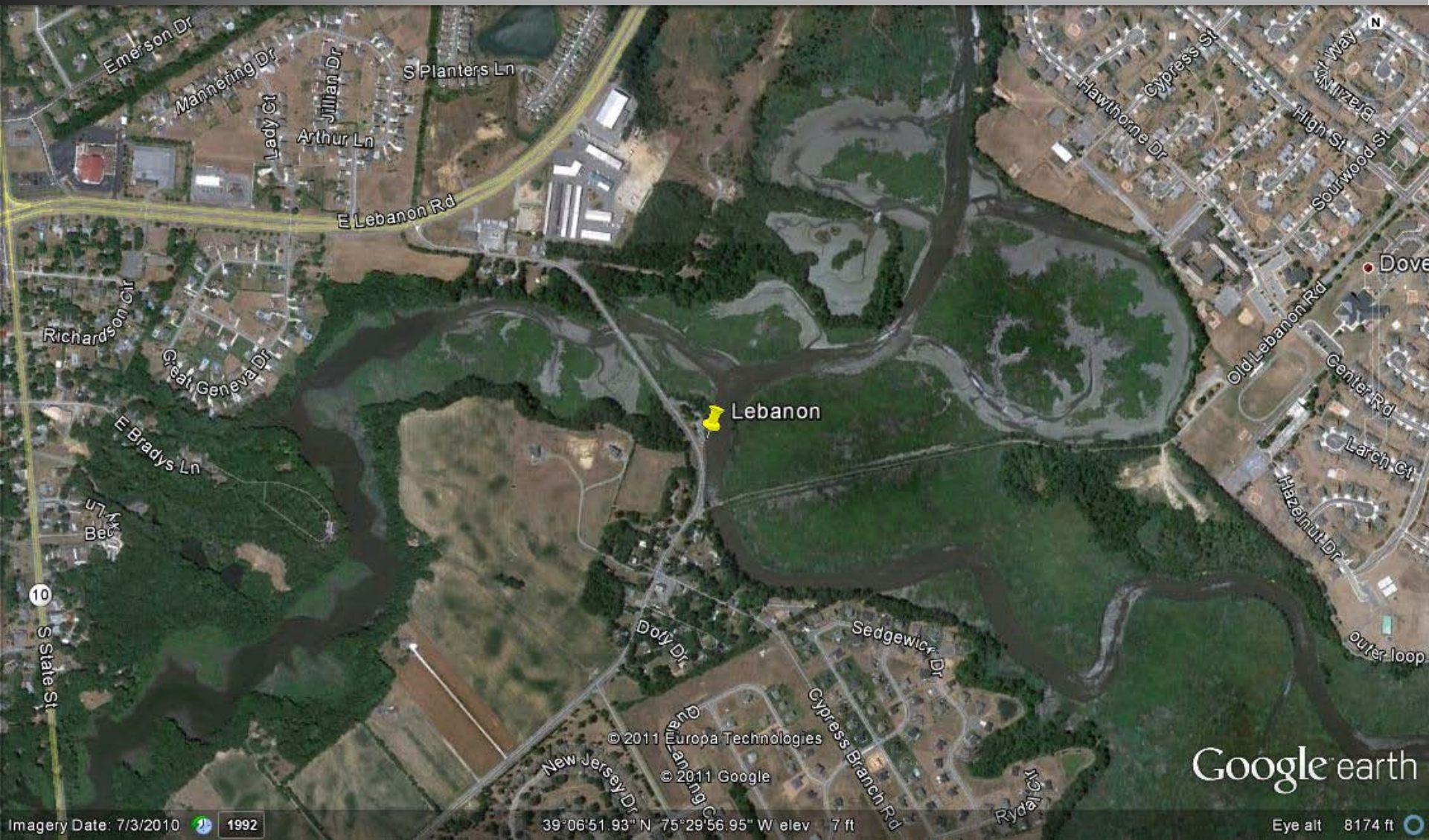
Murderkill 3: Vegetation and Contour



Prevailing physical and biological conditions

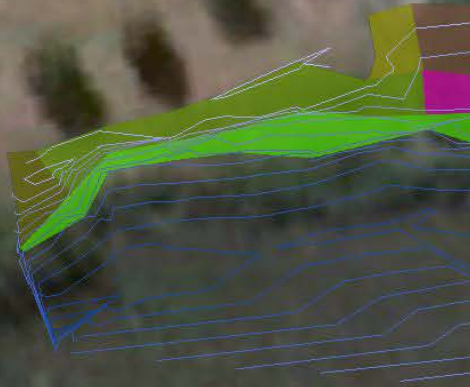
Murderkill Sites	Landscape Condition					
	Vegetation	Substrate	Surrounding Development	Slope	Shoreline Features/ Alterations	Mussels/ Oysters Present
Site 1	<i>Spartina alterniflora</i>	Soft Mud-walkable	Several marinas behind and on both sides	25%	Docks/ Marina	Mussels
Site 2	<i>Spartina alterniflora</i>	Soft Mud-walkable	Marina to east	29%	Near dock	Mussels
Site 3	<i>Spartina alterniflora</i>	Soft Mud-walkable	None	20%	None	Mussel/ Oysters

St. Jones River: Lebanon Landing



Google earth

Lebanon Landing: Vegetation and Contour



Contour
Interval- 0.3m

Lebanon Landing- Substrate



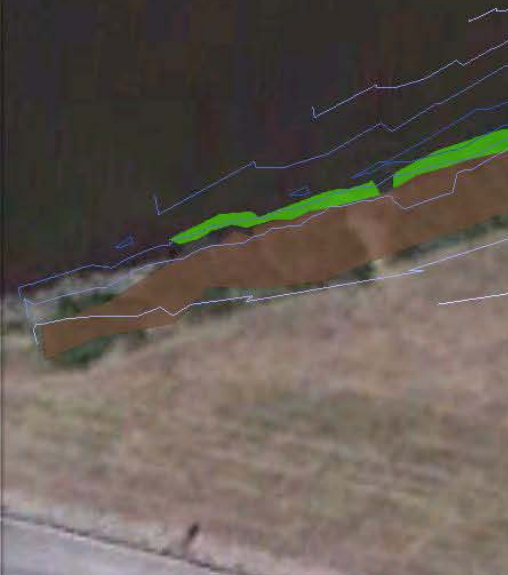
St. Jones River: Scotton Landing



Scotton Landing: Vegetation and Contour



Contour
Interval- 0.3m



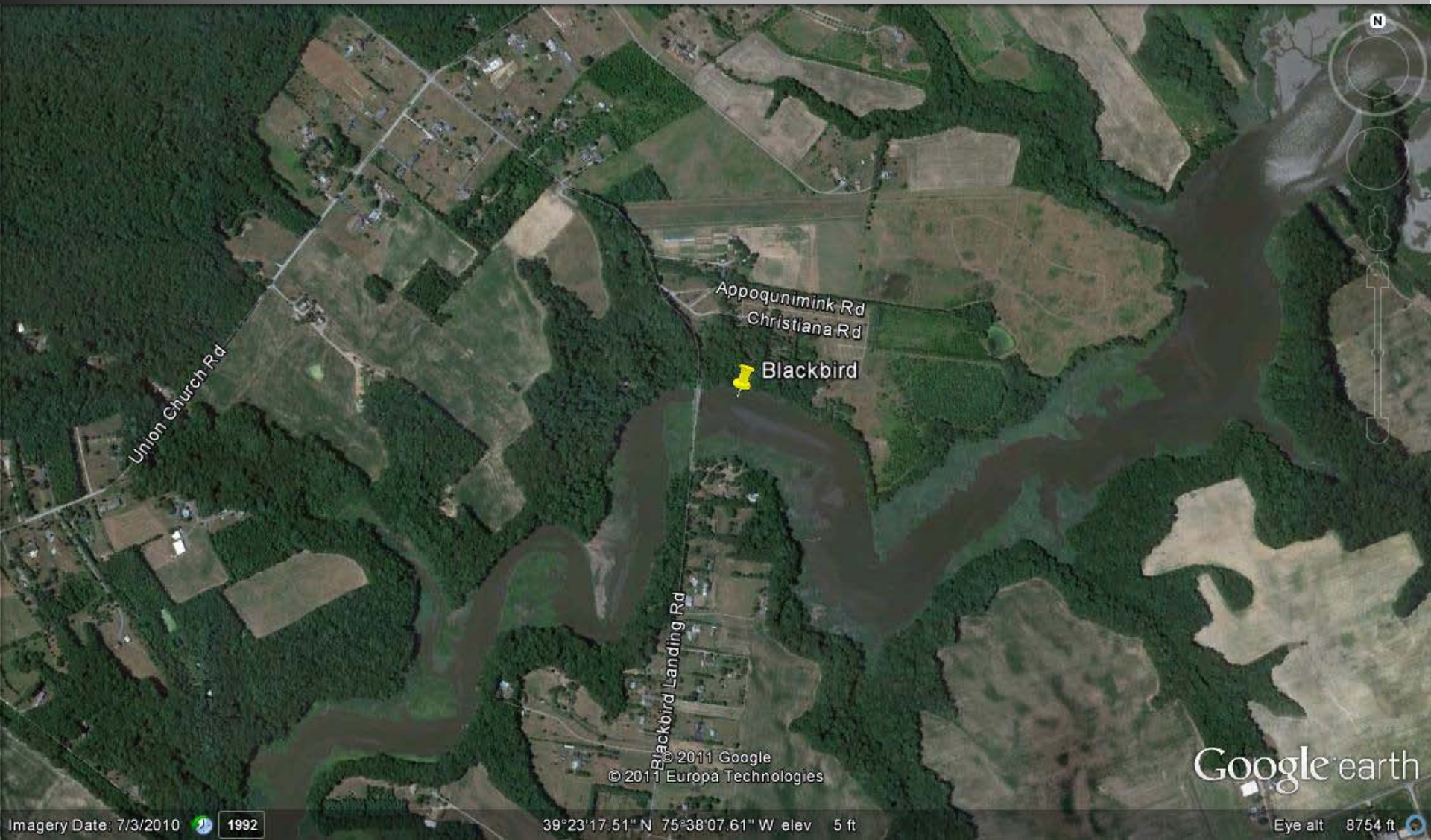
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Google earth

Scotton Landing– Substrate



Blackbird Creek: DNER Boat Ramp



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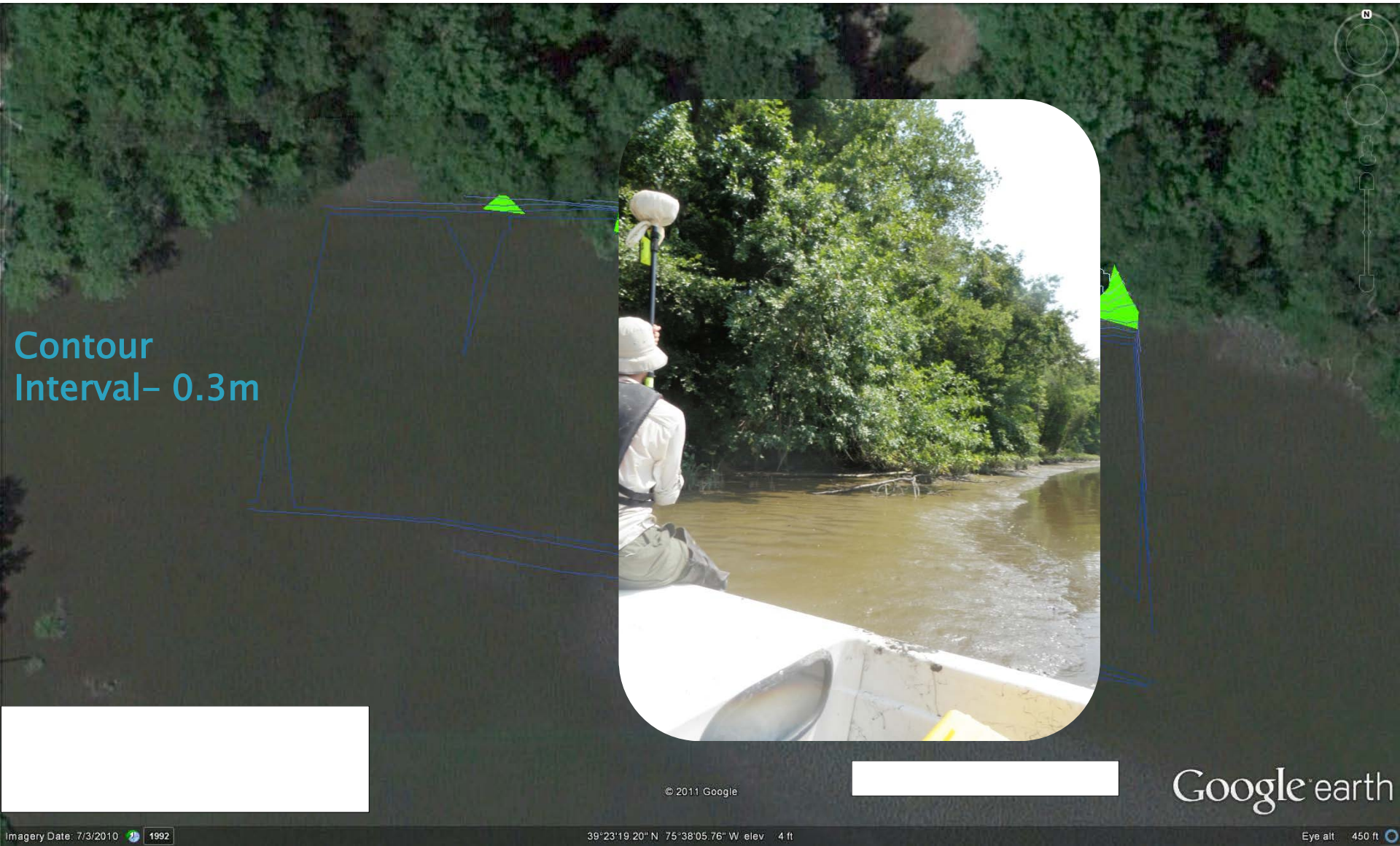
Google earth

Imagery Date: 7/3/2010 1992

39°23'17.51" N 75°38'07.61" W elev 5 ft

Eye alt 8754 ft

Blackbird Creek: Vegetation and Contour



Contour
Interval- 0.3m

© 2011 Google

Google earth

Imagery Date: 7/3/2010 1992

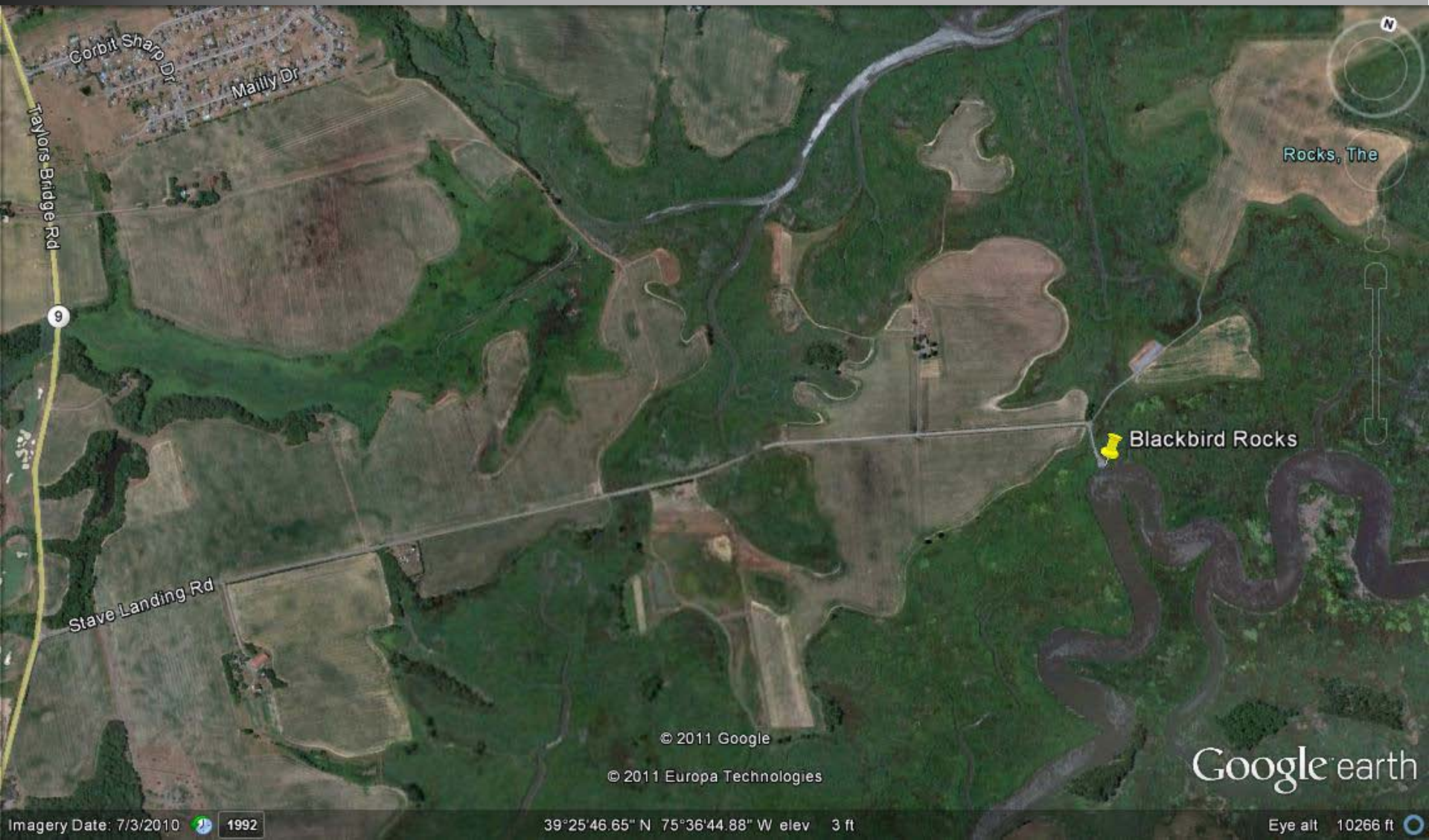
39°23'19.20" N 75°38'05.76" W elev 4 ft

Eye alt 450 ft

Blackbird Creek– Substrate



Blackbird Creek: 'The Rocks'



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Google earth

Imagery Date: 7/3/2010 1992

39°25'46.65" N 75°36'44.88" W elev 3 ft

Eye alt 10266 ft

The Rocks: Vegetation and Contour



The Rocks– Substrate



Other sites:

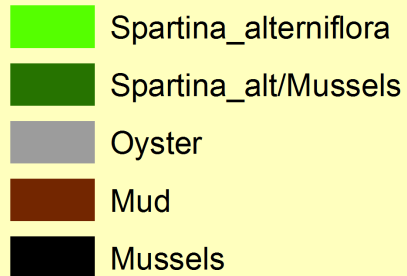
▶ New Castle

▶ Leipsic

▶ Appoquinimink



Murderkill River #3 Site:



Initial Living Shoreline Ideas:

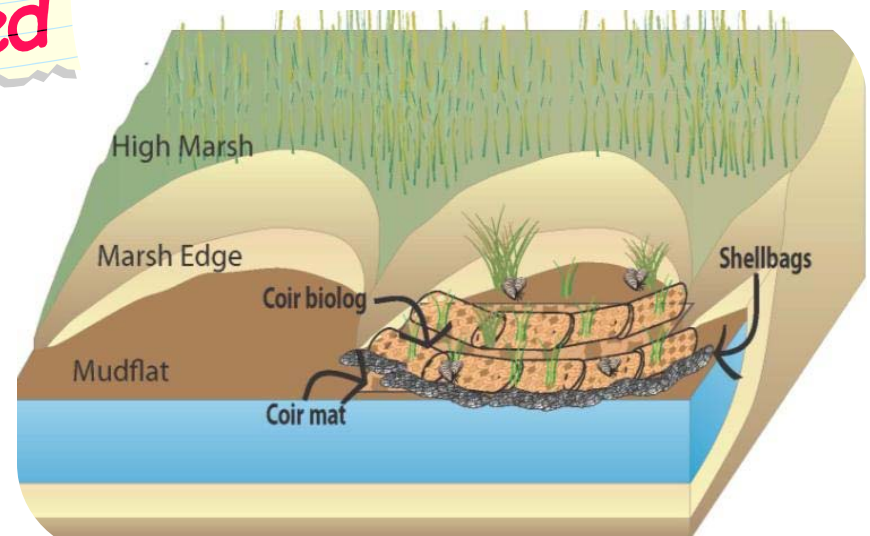
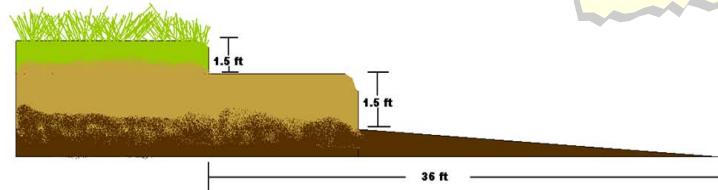
- Hybrid living shoreline
- Expanded oyster reefs (subtidal)
- Mussel plant augmentation (intertidal)



Next Steps:

Conceptual Plans– Compendium of LS projects within AOIs and preliminary plans for 2–5 pilots by 2/28

Partners wanted–





Thank you to DCP, Josh Moody for GIS, and >>
Mike Messinger for boating us around!