



Chesapeake Bay Program
A Watershed Partnership

Restoring 30,000 Acres of Coastal Habitats within the Chesapeake Bay Watershed

Presenters:

Jeff Horan, Habitat GIT Chair

Bernie Marczyk, DU

STAC/Habitat GIT

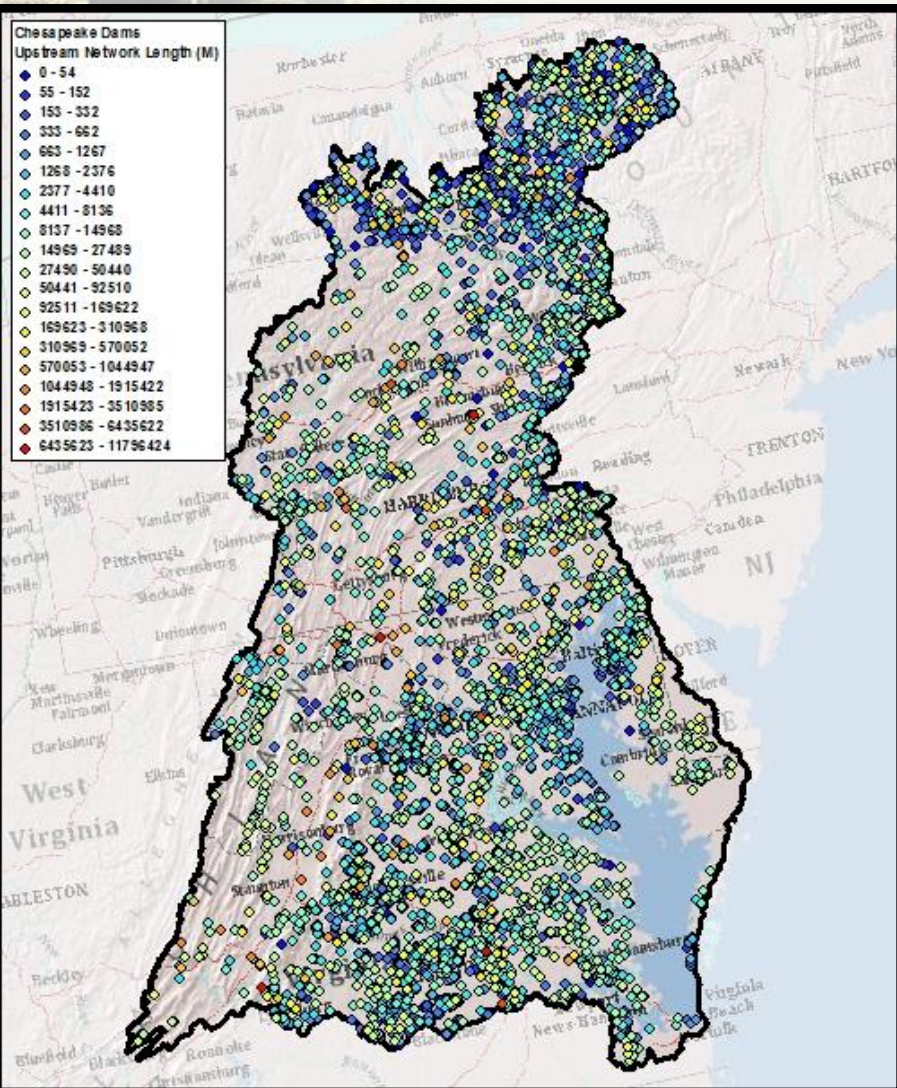
Responsive Workshop:

Designing Sustainable

Coastal Habitats

April 16-17, 2013

Designing Sustainable Coastal Habitats:



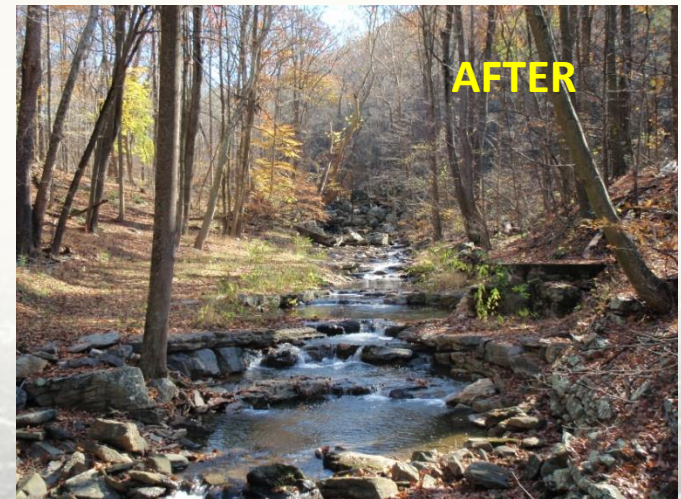
Workshop Purpose:

Bring together scientists, habitat restoration partners and policy makers to assess the current status and trending condition of coastal ecosystems, their capacity to support flora and fauna, and to identify those coastal habitats that will be sustainable under increasing human impacts and a changing climate, and where restoration provides the greatest return on investment.

Workshop Themes:

- 1) Ecosystem Components of Coastal Habitats;
- 2) The Capacity of Coastal Habitats to Support Flora and Fauna;
- 3) Design Sustainable Coastal Habitats in the Face of Human Development, Climate Change, and Sea Level Rise.

Workshop participants will help develop a report that will recommend scientific approaches, targeting tools and specific actions to protect and restore coastal habitats.



Designing Sustainable Coastal Habitats Workshop Steering Committee

- Natalie Gardner, STAC Coordinator
- Jeff Horan, Chair - Habitat GIT, USFWS
- Donna Bilkovic, VIMs, STAC
- Alicia Berlin, USGS
- Jennifer Greiner, Coordinator - Habitat GIT, USFWS
- Pat Devers, USFWS
- Bernie Marczyk, DU, Wetland Workgroup - CoChair
- Hannah Martin, Habitat GIT Staff
- Lee Karrh, MD DNR, SAV Workgroup – Chair
- Mary Ann Ottinger, UMD
- Walter Preist, NOAA
- Quentin Stubbs, USGS – CBPO
- Matt Ellis, STAC Staff

Related Works



- Atlantic Coast Joint Venture/ FWS Black Duck Strategic Decision-Making Workshops (2012)
- FWS Salt Marsh Integrity Workshop (2012)
- Previous STAC Wetlands and SAV Workshops (2001, 2007)
- STAC Climate Change Workshop (2011)



Challenge



- Coastal ecosystems provide:
 - habitat for waterfowl
 - nursery areas for fish and shellfish
 - improvements to water quality
- CBP relying on ecosystem services to help achieve Chesapeake Bay TMDL, EO Black Duck Outcome, and EO Wetland Outcome
- Climate change and sea level rise are affecting habitat availability
- **Effective and integrated targeting of coastal wetland, living shoreline, and SAV restoration will extend limited resources and maximize ecological benefits**

Solution



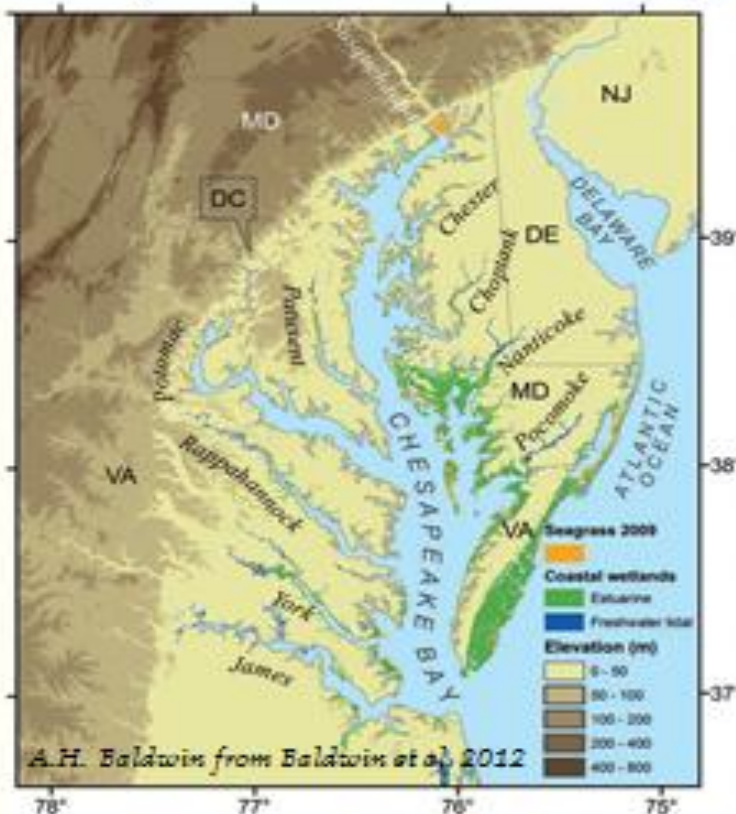
- Convene coastal wetland, living shoreline, and SAV restoration partners to:
 - Assess and determine strengths and weaknesses of a series of targeting approaches specific to each habitat type
 - Share state-of-the-science regarding targeting, address strategies for collaborative targeting and reporting
 - Build consensus among partners and report findings on best available targeting approaches



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Existing coastal wetlands – Chesapeake Bay



Total coastal wetlands in
Chesapeake Bay
~574,625 ha

NON-TIDAL COASTAL WETLANDS

State	Total (ha)	Coastal (ha)	%
VA	408,371	260,627	64
MD	150,976	136,558	90

Havens, regional assessment

TIDAL FRESHWATER WETLANDS

State	(ha)
Delaware	823
Maryland	10,345
Virginia	16,000
North Carolina	1,200
South Carolina	26,115
Georgia	19,040

After: Mitsch & Gosselink 2000

BRACKISH & SALT MARSH

Chesapeake Bay:	151,095 ha
Salt Marsh	27,438
Brackish marsh	113,140
Intertidal scrub-shrub	10,511

NWI data



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Wetland Restoration BMPs (acres)

AG

Progress

	2009	2010	2011	2012	2013 milestone	2025 WIPgoal
NY	5,360	5,725	6,363	6,216	6,363	13,792
PA	3,837	4,708	4,709	4,549	5,720	54,135
MD	7,716	8,248	8,614	9,037	9,259	12,849
VA	214	213	411	420	727	19,215
WV	203	203	203	203	406	406
DE	286	438	588	2,694	1,145	5,725
DC	0	0	0	0	0	0
Totals:	17,616	19,536	20,888	23,119	23,620	106,121



Wetland Restoration BMPs (acres)

Urban

Progress

	2009	2010	2011	2012	2013 milestone	2025 WIPgoal
NY	0	0	0	0	0	9,209
PA	75,990	75,990	76,244	77,506	76,710	145,722
MD	51,578	54,030	54,415	54,887	54,415	67,721
VA	156,707	156,838	158,293	173,484	169,649	177,773
WV	9,546	9,670	10,039	10,246	9,670	0
DE	1,392	5,777	5,750	6,466	5,956	5,776
DC	99	99	99	146	199	99
Totals:	295,312	302,403	304,840	322,733	316,598	406,300



Wetland Restoration BMPs (acres)

Totals:

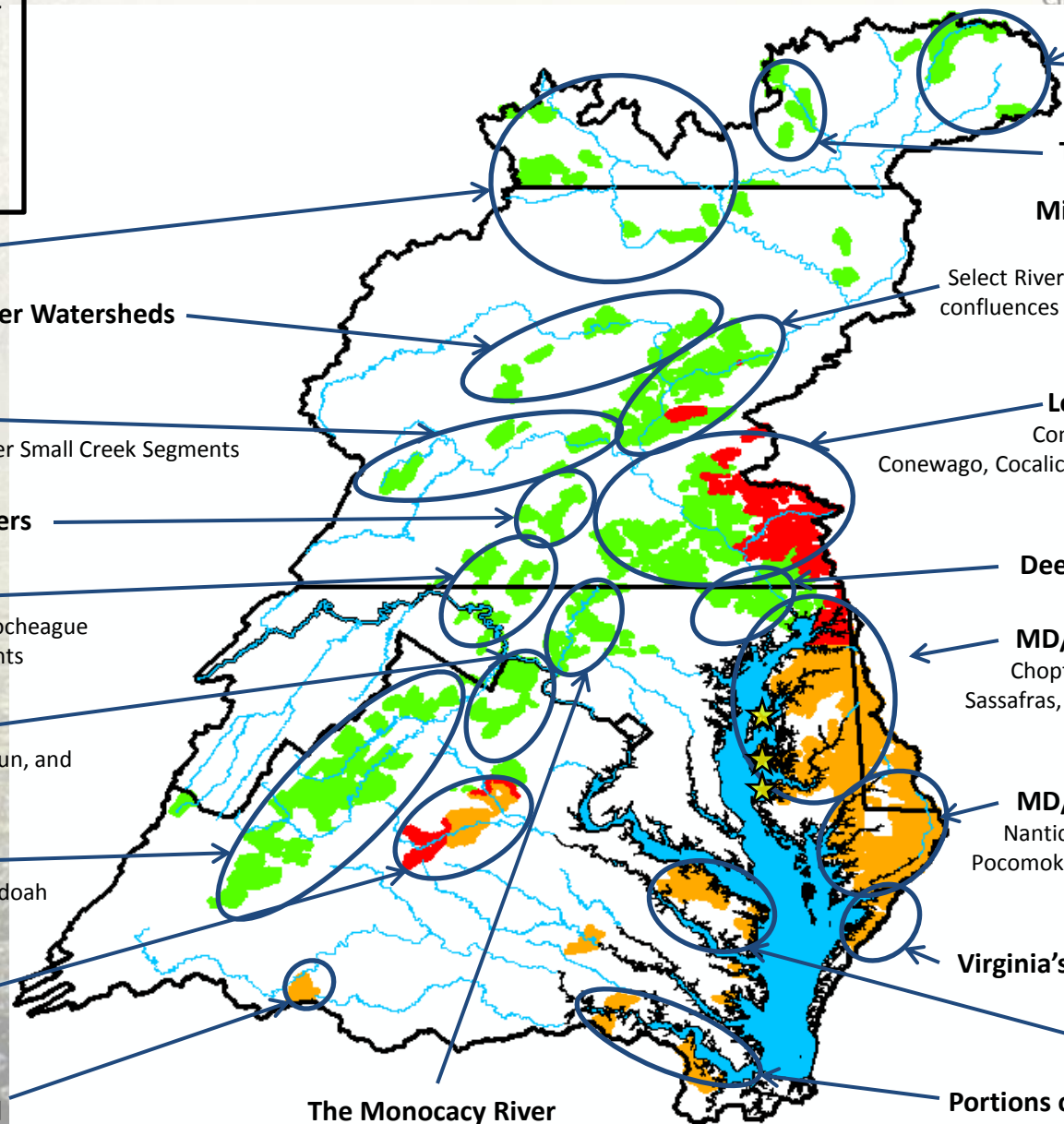
Progress

	2009	2010	2011	2012	2013 milestone	2025 WIPgoal
NY	5,360	5,725	6,363	6,216	6,363	23,000
PA	79,827	80,699	80,953	82,054	82,430	199,857
MD	59,294	62,278	63,029	63,924	63,674	80,571
VA	156,921	157,051	158,704	173,903	170,375	196,987
WV	9,749	9,873	10,242	10,449	10,076	406
DE	1,678	6,215	6,338	9,160	7,101	11,501
DC	99	99	99	146	199	99
Totals:	312,928	321,939	325,728	345,852	340,218	512,422

Chesapeake Bay Stewardship Fund Targeted Watersheds



	Eastern Brook Trout Habitat
	River Herring Habitat
	Both EBT and RH Habitat
	Oyster Priority Areas



Chemung Headwaters

West Branch Susquehanna River Watersheds

Select River and Creek Segments

Juniata River Watersheds

Kishacoquillas, Piney, Halter and Other Small Creek Segments

Conodoguinet Creek Headwaters

Potomac River Headwaters

Antietam Creek, West Branch Conococheague Creek, and Other Small Creek Segments

Western Loudoun County

Goose Creek, Catoctin Creek, Piney Run, and Dutchman Creek

The Shenandoah Valley

North and South Forks of the Shenandoah River and their Headwaters

Upper Rappahannock and Rapidan River Headwaters

Wreck Island Creek Watershed

The Monocacy River

Chesapeake Bay Program

Unadilla Headwaters

Tioughnioga Headwaters

Middle Susquehanna River Watersheds

Select River and Creek Segments near the confluences of the Susquehanna and West Branch and Juniata Rivers

Lower Susquehanna River

Conestoga and Conowingo Rivers
Conewago, Cocalico, Octoraro, Pequea, Swatara, and Other Small Creeks

Deer Creek and Broad Creek

MD/DE Upper Eastern Shore

Choptank, Little Choptank, Chester, Sassafras, and Elk River Watersheds and Other Small Creeks

MD/DE Lower Eastern Shore

Nanticoke, Wicomico, Manokin, and Pocomoke River Watersheds and Other Small Creeks

Virginia's Northern Eastern Shore

Virginia's Upper Neck

Portions of the Lower James River



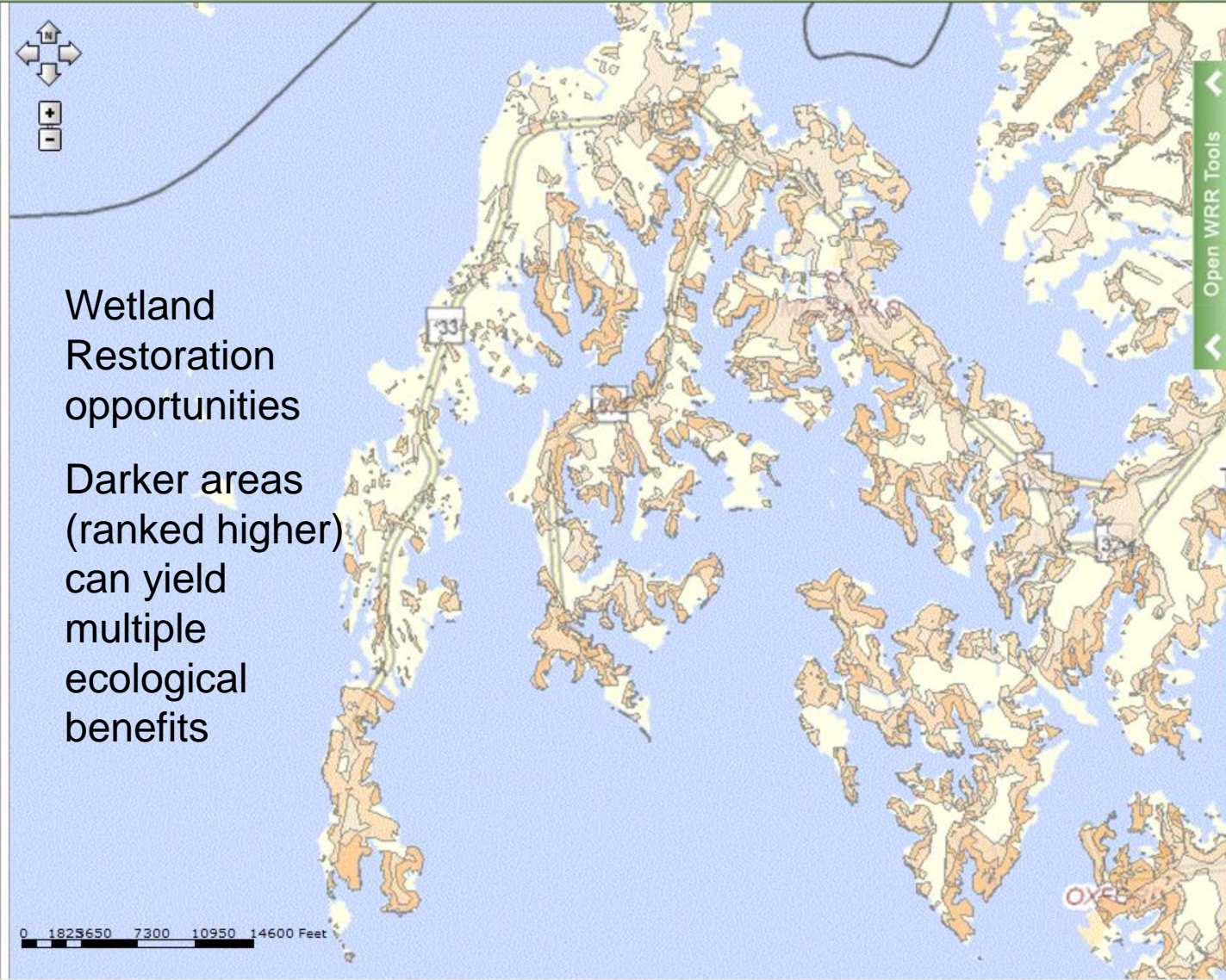
Location Details Results

Opportunities Results

Address Results

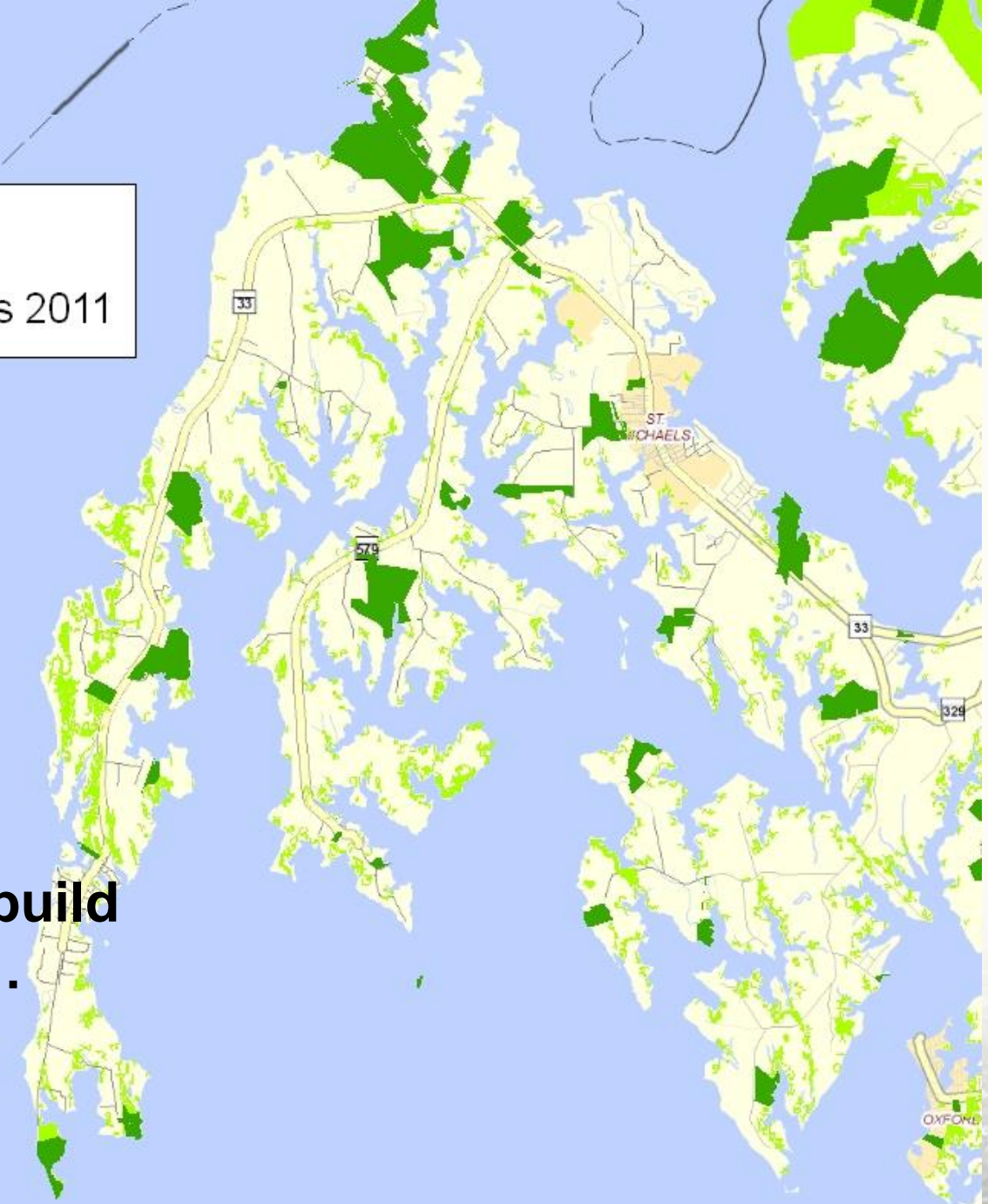
Map Contents

- Parcel Boundaries / Real Property
 - Parcels
- Basemap
 - Watershed Resources Improvement
 - Upland Preservation
 - Upland Restoration
 - Wetland Preservation
 - Wetland Restoration
 - Not Suitable
 - 1
 - 2
 - 3
 - 4
 - 5
 - Riparian Preservation
 - Riparian Restoration
 - Stormwater Natural Infrast...
 - Stormwater Compromised
 - Watershed Characteristics
 - Waters/Streams
 - Water Quality Impairments
 - Physiographic Region
 - Geology
 - Wetland
 - Soils - Appears If Zoomed In
 - Green Infrastructure



Protected Land

Targeted Ecological Areas 2011



**A base from which to build
a network of habitats...**

OXFORD

Wildlife and Rare Species Habitat

BIONET version 1

BIONET_TIE

 Tier 1

 Tier 1-2

 Tier 2

 Tier 3

 Tier 4

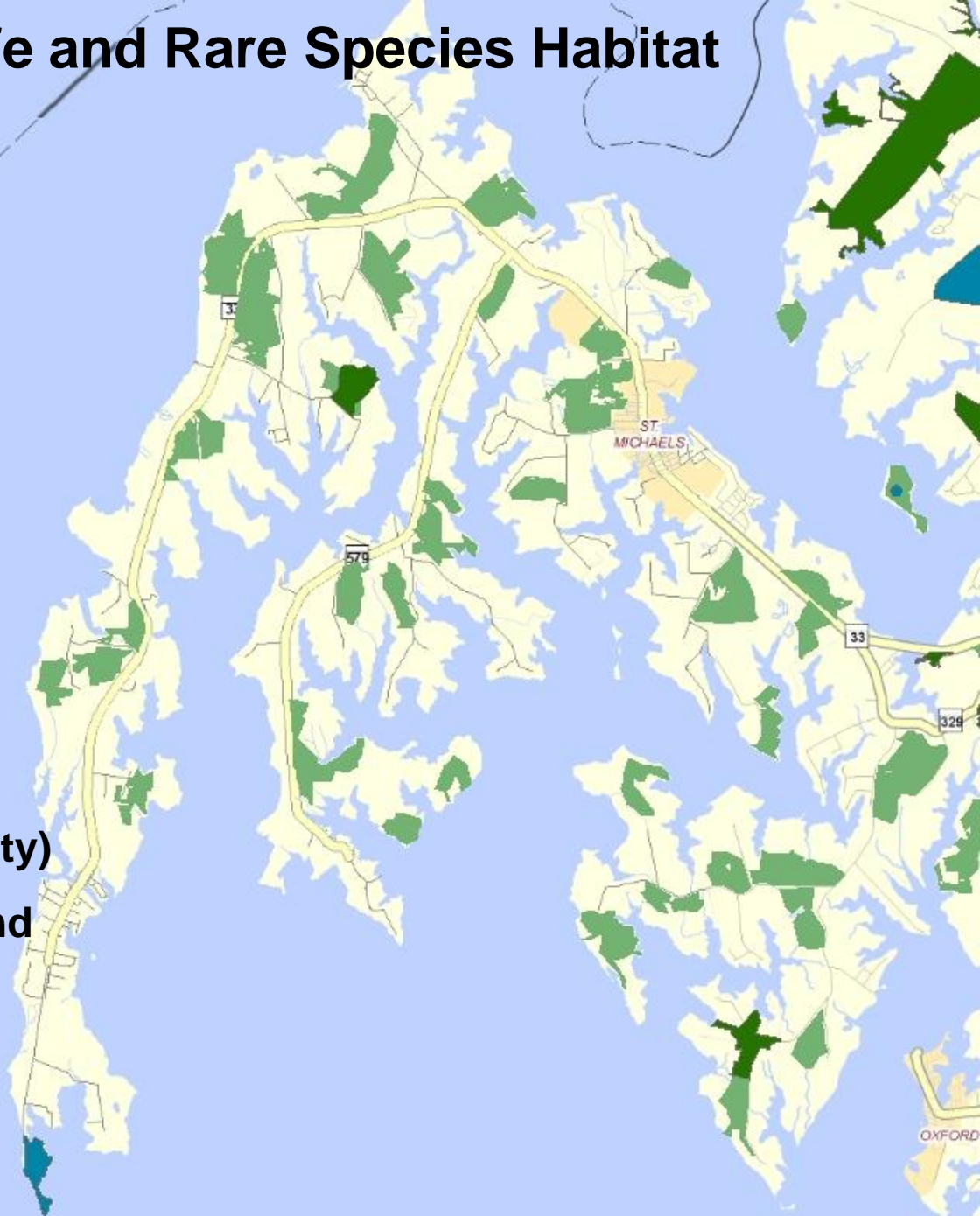
 Tier 5

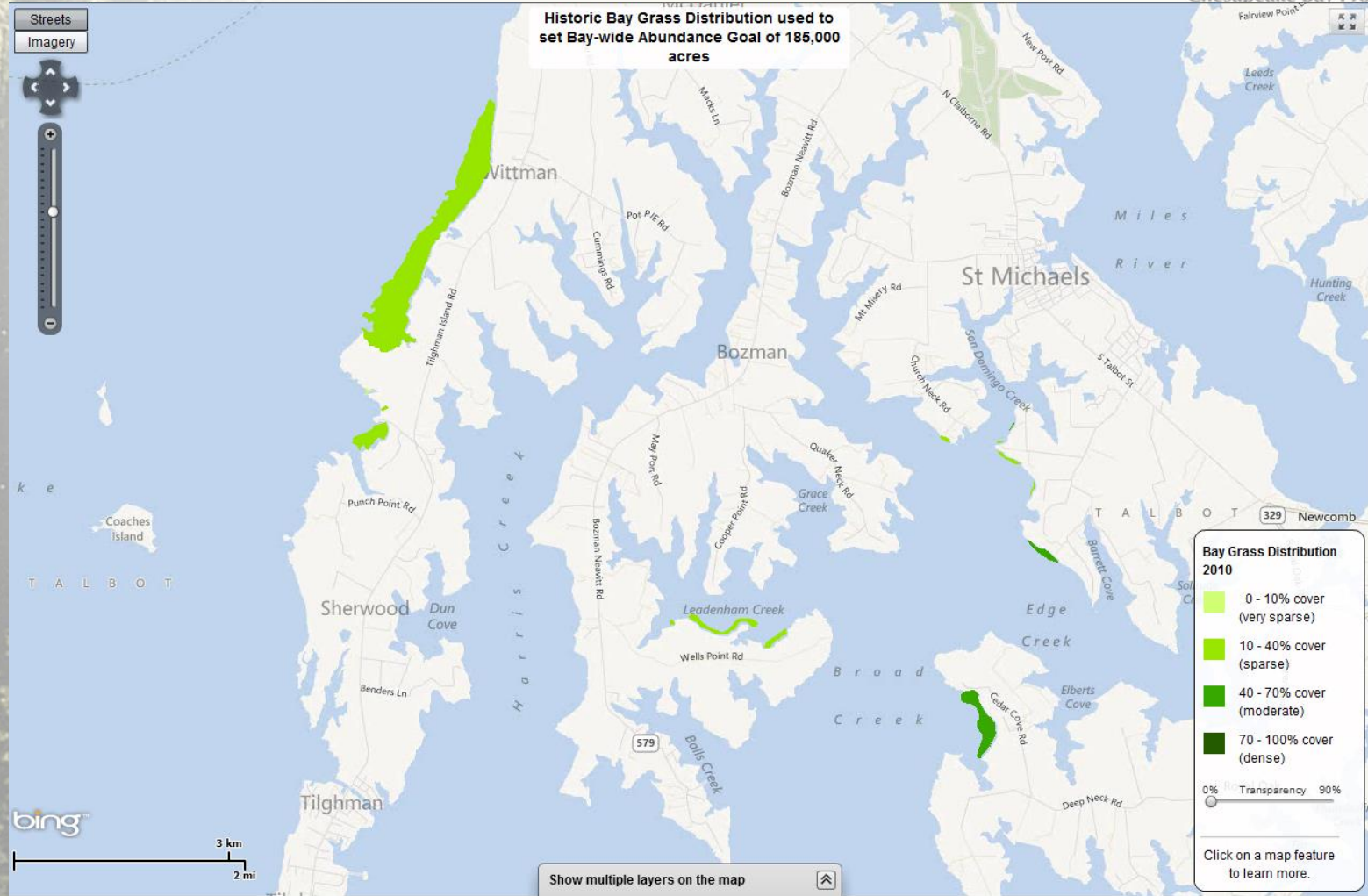


No Tier 1 areas (highest priority)

**Some Tier 2 (Poplar Island) and
Tier 3 (waterfowl sanctuaries)**

**Most BioNet areas are Tier 5
(primarily FIDS habitat)**





Shoreline Habitat



COASTAL ATLAS: Estuaries
A tool to visualize Maryland's coastal resources

Help Chesapeake Coastal Service



Blue Infrastructure Assessment shows no high priority shoreline segments in the Harris Creek watershed.

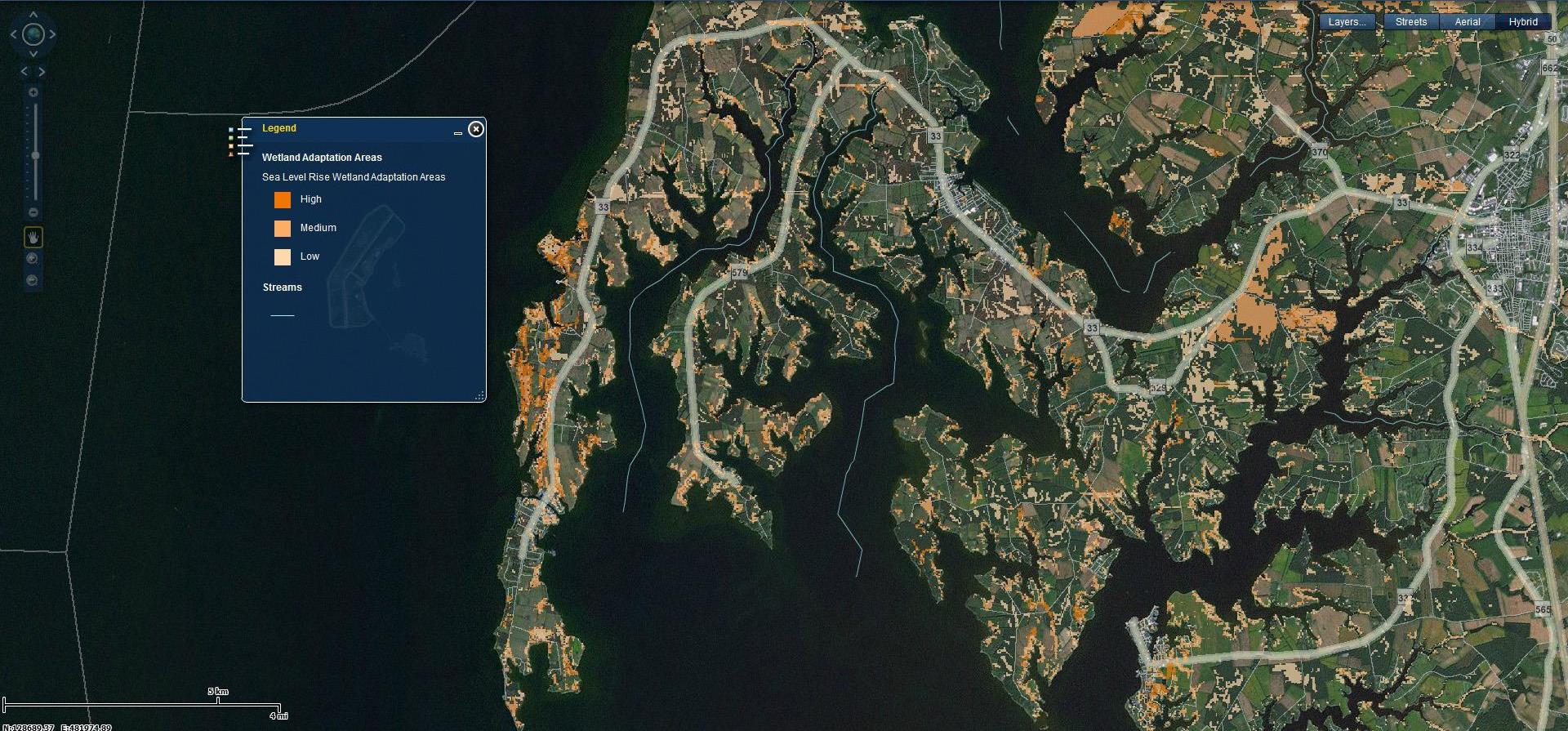
Climate Change Wetland Adaptation Areas



Chesapeake Bay Program

COASTAL ATLAS: Estuaries
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Help Chesapeake Coastal Service

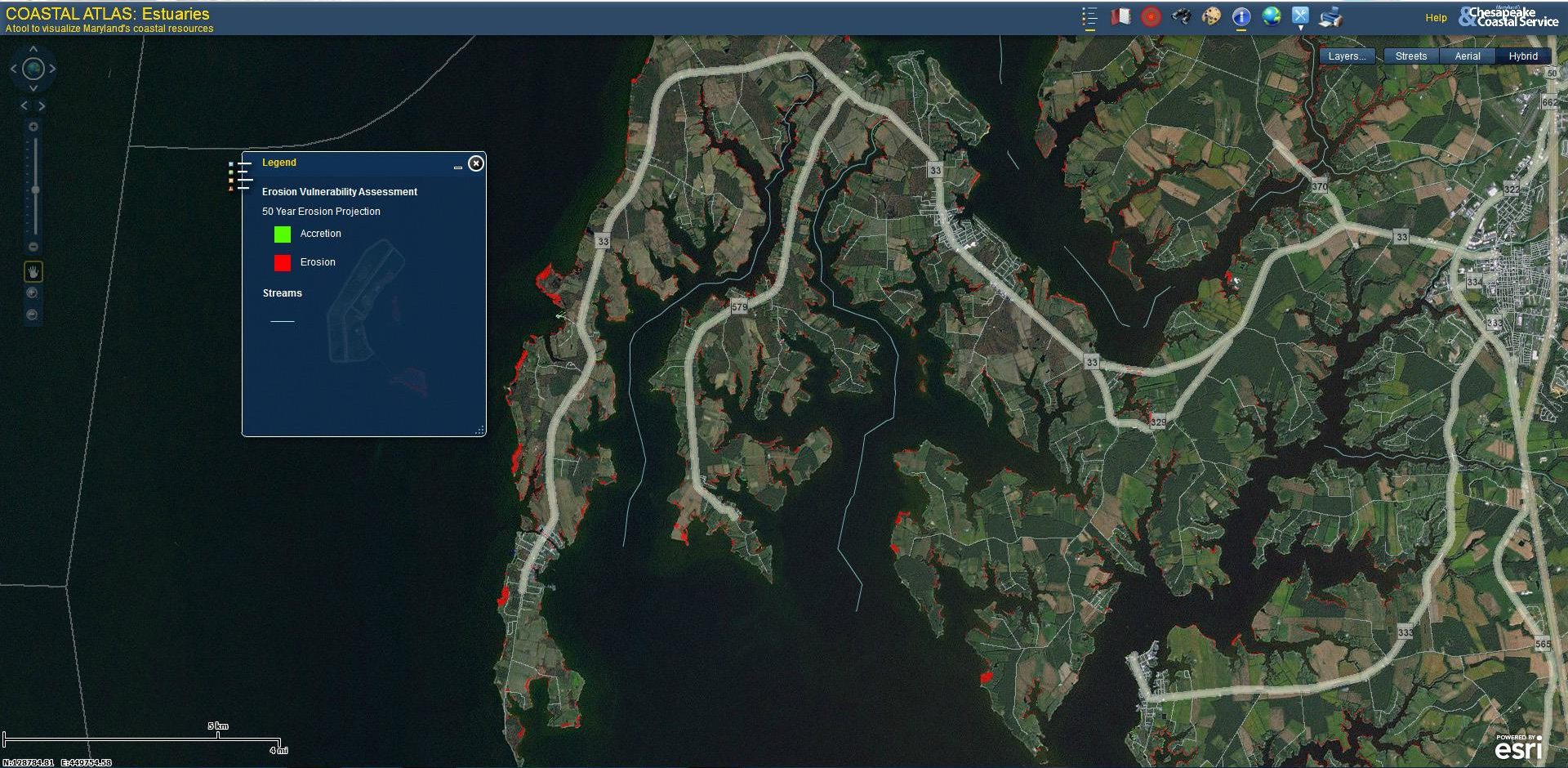


Areas ranked as High (darker orange) have higher priorities for conservation and management to allow for marsh migration

Erosion Vulnerability Assessment



COASTAL ATLAS: Estuaries
A tool to visualize Maryland's coastal resources



Red areas show where erosion is likely to occur in future



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Thank You